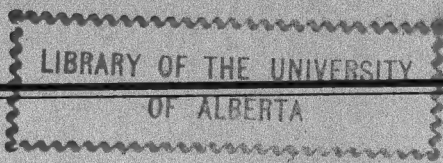


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ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA
FOR THE YEAR
1944



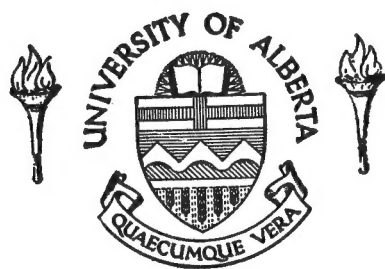
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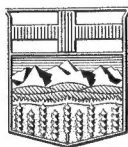
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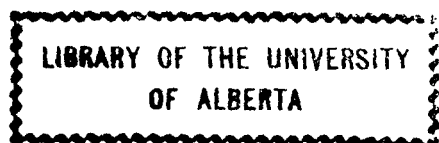
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TO HIS HONOUR,

J. C. BOWEN,

Lieutenant Governor of the Province of Alberta.

SIR:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1944.

I have the honour to be, Sir,

Your obedient servant,

D. B. MACMILLAN,

Minister of Agriculture.

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DEPARTMENT OF AGRICULTURE
1944

HON. D. B. MACMILLAN, *Minister of Agriculture*

Heads of Branches

O. S. Longman, Deputy Minister and Superintendent of Schools of Agriculture.
A. M. Wilson, Field Crops Commissioner.
A. A. Campbell, Live Stock Commissioner.
D. H. McCallum, Dairy Commissioner.
C. W. Traves, Poultry Commissioner.
R. M. Putnam, Director of Extension.
P. R. Talbot, Provincial Veterinarian.
T. L. Jones, Animal Pathologist.
W. G. leMaistre, Provincial Apiarist.
J. Murray, Principal, School of Agriculture, Olds.
S. H. Gandier, Supervisor, Youth Training and Junior Activities.
E. B. Swindlehurst, Acting Supervisor, Relief and Land Settlement.
P. D. Hargrave, Superintendent, Brooks Horticultural Station.

Report of the Deputy Minister

(O. S. LONGMAN)

THE HONOURABLE D. B. MACMILLAN,
Minister of Agriculture.

SIR:

I have the honour to submit herewith the thirty-eighth Annual Report covering the activities of the various branches of the Alberta Department of Agriculture for the year 1944.

FIELD CROPS

A sharp increase in wheat acreage and decreases in oats and barley was evident in 1944 as compared with the previous year. Apart from the severe drought experienced in south-eastern Alberta, crop yields were generally satisfactory. Average yields in bushels per acre for the three major crops were: Spring wheat, 16.8; oats, 38.6; barley, 27.3.

Flax acreage was considerably reduced, 34% only of the previous year's acreage being sown. Weeds, difficulty in handling, and comparative price all contributed to this reduction. Strong export demand for forage crop seed continues, and care was again taken to ensure sufficient seed for the use of Alberta farmers. Seed distributed to farmers under the forage crop policy in 1944 amounted to 525,781 pounds, of which 161,000 pounds was alfalfa and 152,000 pounds brome. The suitability of the climate and soil of Alberta to the production of field peas and creeping red fescue received further attention during the year, and encouragement was given to selected farmers in the production of these crops.

The production of registered and certified seed holds an important place in the farm economy of this Province. The demand for Alberta grown seed in eastern Canada and the United States, and the realization that the quality of commercial grain for export will depend largely on the type of seed used, necessitate adequate production of seed of high quality. Through the efforts of the Alberta Crop Improvement Association, encouragement is being given to a wider use of registered and certified seed grains among Alberta farmers.

PEST CONTROL

Considerable increase in grasshopper population occurred in 1944, but the timely use of bait prevented extensive damage. The wheat stem sawfly is still the greatest hazard to wheat production in Alberta, and serious losses occurred in the south and south-western part of the Province. Definite progress in the control of bacterial ring rot is reported, and all sections in which the disease occurs have shown sign of improvement.

WEED CONTROL

The value of forage crops, in the control of weeds, is gaining recognition. To demonstrate methods of weed control and to arouse interest in soil conservation, several demonstration plots were laid down during the year in various parts of the Province. Definite

interest in weed control is being shown in several of the enlarged municipal districts. Qualified weed inspectors have been appointed on a yearly basis, and the improvement in these districts is encouraging.

PROVINCIAL HORTICULTURAL STATION, BROOKS

Activities included the improvement and testing of fruit varieties, further development of demonstration orchards, fruit and vegetable processing trials and production of vegetable seed. In co-operation with the Women's Extension Service, varieties of home grown fruits and vegetables were processed with a view to determining the best varieties for this purpose and the most satisfactory methods of preservation. During the year, a Horticultural Advisory Board was appointed, and the horticultural project of the C.P.R. at Strathmore was taken over by the Department for maintenance and supervision from Brooks.

LIVE STOCK

The number of live stock sold and total returns during 1944 created a record in the history of the Province. The number of hogs sold increased from 2,392,384 in 1943 to 2,981,940 in 1944. The sheep population increased from 900,000 in 1943 to 1,023,200 in 1944. Sheep and lamb marketings exceeded the previous year's total by around 70,000 head. Cattle marketings also increased considerably over those of last year. A brisk demand for dairy cows continued, and shipments to Mexico and British Columbia maintained prices at high levels. The year 1944 proved profitable for breeders of pure-bred cattle. There was keen demand for pure-bred females as foundation stock, but the average price for pure-bred bulls at the leading auction sales was lower for all breeds as compared with 1943 prices.

Sixteen feeder associations operated in 1944 under the provisions of The Feeders' Association Guarantee Act. Profits were not so satisfactory as in previous years, but in no case has it yet been necessary to exercise the Government guarantee with respect to non-payment of loans.

Artificial insemination work, with headquarters at the Olds School of Agriculture Farm, started early in 1944. Excellent progress has been made, and observations taken will be of great value in future operations.

POULTRY

Expansion of the industry continued throughout the year, and returns were generally satisfactory. Although small flocks were again responsible for much of the increase in production, more flocks of commercial size were in evidence, and new buildings were erected on many farms to accommodate the larger numbers of birds. Quantity of egg production was excellent, but improvement in quality will be required if reasonable prices for exports are to be maintained. There was a considerable increase in the number of birds blood tested, and although reaction to pullorum disease was somewhat higher, this could be expected in view of the large number of flocks not previously tested. The peak of desired production has now been reached, and steps are being taken to avoid over production of chicks during the 1945 season.

DAIRYING

New records were established in the production of milk and total value of dairy products. Manufactured dairy products utilized 65.7% of the total milk supply, and 34.3% was consumed or fed in fresh fluid form. Total value for all dairy products in 1944 amounted to \$35,330,189 as compared with the previous high of \$34,428,814. In addition to this, producers received \$3,930,000 in the form of Federal Government subsidies. The number of creameries in Alberta was reduced during 1944 from 93 to 90. Engaged in the manufacture of other milk products were 18 cheese factories, 1 condensery, and 10 plants drying skim and buttermilk.

Inspection and instruction, cow testing and herd recording were continued. The Dairy Branch Laboratory was very active throughout the year. A change of policy on April 1st resulted in free service to all creameries on butter samples analyzed for moulds and yeasts. Previously, only those factories requesting and paying for this service participated. An addition to the responsibilities of the Dairy Branch was the administration of The Frozen Food Locker Act passed at the 1944 session of the Alberta Legislature. This Act prevents unnecessary duplication of locker plants, and provides a check on construction and equipment to promote the best possible service to locker renters. Thirty-four locker plants were licensed during 1944, and throughout the year many enquiries were received from persons interested in the locker business.

CONTROL OF ANIMAL DISEASES

The necessity for maintaining the health of the greatly increased number of stock during the war years has required considerable effort on the part of the Animal Diseases Branch. Immunization is important in the prevention of certain diseases, but in the control of all diseases efficient sanitary practice must be employed. Diseases of horses during 1944 were of minor character. Shipping fever of cattle continues to be the major live stock problem. The Bang's Disease Control Policy introduced in 1944 has met with considerable response, and a more extensive programme is proposed for 1945.

The Provincial Veterinary Laboratory continued to provide a diagnostic and blood testing service, free of charge. This involved the examination of 1,625 specimens, representing 13 different animal species, and the testing of 4,507 cattle blood samples for brucellosis and 2,263 turkey blood samples for pullorum disease. Sufficient formalized tissue vaccine (autogenous) was prepared to inoculate 8,479 mink and 3,800 foxes in the control of distemper. There are now 101 herds in the plan of calfhoo vaccination for the control of brucellosis, in which certificates of vaccination are issued on the basis of blood test results made before and after vaccination. There were 460 certificates issued in 1944. The Animal Pathologist's report includes information collected regarding pullorum disease in chicks, distemper in mink, brucellosis and shipping fever in cattle. The increased demand for extension services has been met by the appointment of an Extension Veterinarian.

EXTENSION SERVICE

The activities of the Agricultural Extension Service were increased somewhat in 1944. A Superintendent of District Agriculturists and two additional District Agriculturists were added to the

staff, an Agricultural Engineer was appointed, and the permanent staff of the District Home Economists was increased from one to five. The distribution of agricultural information remained the chief function of the Extension Service, and much time and energy was devoted to work in connection with wartime programmes.

FIELD EXTENSION SERVICE

The number of District Agriculturists was increased from 28 to 30 in 1944, and closer supervision of their needs was provided by the appointment of a Supervisor of District Agriculturists. Much of the time of these men was taken up with quantity production to meet wartime requirements, but quality has at all times been stressed and adequate conservation of agricultural resources encouraged. Closer co-operation with local authorities has been possible in several districts by the appointment of Municipal Agricultural Service Committees.

The importance of the services of the District Agriculturists in the administration of the Dominion-Provincial Farm Labour Programme cannot be over estimated. Much time and energy were devoted to this effort. Not only did the work entail placement of farm labour, but in addition, encouragement of the use of labour-saving devices, assistance in the movement of harvesting equipment, rural investigations for the War Mobilization Board, and transfer of farm workers at the end of the harvest season to other essential occupations, were all important phases of this programme. During the year, 6,255 farm workers were placed, and although there was a continuous demand throughout the summer for farm help, at no time did the situation become acute.

WOMEN'S EXTENSION WORK

The Women's Division co-operated with a number of organizations during the year, and the appointment of four additional District Home Economists resulted in a much needed extension of services available to farm women of the Province. Much of this work can now be carried on throughout the year, instead of curtailing activities during the winter season, as was formerly necessary. A noticeable improvement is evident in Girls' Club work as a result of greater supervision by the enlarged staff.

A total of 557 demonstrations on food preparation, sewing and general home management were held at a number of points during the year. In addition, 77 meetings, field days, fairs and other gatherings were attended by members of the staff. Publications, radio, clubs, home visits, meetings, and correspondence both with groups and individuals are all recognized as important methods of improving, through the homemaker, the condition and environment of Alberta farm families.

SCHOOL OF AGRICULTURE, OLDS

At the close of the 1943-44 term in April, 45 young men graduated in Agriculture and 29 young women received diplomas in Home Economics. Total enrolment for the new term in the fall of 1944 was 182, of which 69 were two-in-one students. The services of this school are in great demand, and it is unfortunate that lack of adequate accommodation made it necessary to refuse admission to over 100 applicants this year.

The primary object of the School of Agriculture is to offer students such training in Agriculture and Home Economics as will fit them for their chosen work on the farm and in the home, but since it is realized that farm youth with its background of practical agricultural training does provide a sound basis for studies in agricultural science, encouragement is given to those with the necessary desire and ability to continue towards a degree course at the University. During the past 30 years, 335 students from agricultural schools have entered the University of Alberta, 225 of whom received Bachelor degrees in Agriculture, 60 continued for their Masters' degrees, and 24 attained the status of Ph.D. From one to six graduates in Home Economics continue each year towards a degree.

Apart from its use as a youth training institution, the School of Agriculture is a centre of interest and enjoyment for those residing in a wide area surrounding the school. Many visitors are welcomed during the summer, who take pleasure in strolling through the grounds, enjoying the trees, shrubs and flowers, and adding to their knowledge of matters relating to their chosen vacation. A number of short courses are held during the summer, which are always well attended and duly appreciated.

Yours respectfully,

O. S. LONGMAN,

Deputy Minister.

REPORT OF THE FIELD CROPS COMMISSIONER

(A. M. WILSON)

Perhaps the most noticeable feature of Alberta's 1944 crop production was the sharp increase of 40% in wheat acreage accompanied by decreases in barley, oats, flax and summer fallow. This shift in production might be attributed to the withdrawal of the Dominion Government Wheat Acreage Reduction Policy which had operated for three years, and to the prevailing optimism among farmers that delivery restrictions on wheat would be lifted. Wheat prices as established on the basis of \$1.25 per bushel were also attractive in comparison to marketing coarse grains. Farm labour problems, together with a desire on the part of the farmer to reduce his working hours and pessimism towards live stock markets are reflected in the increased acreage.

The objective for flax acreage was not reached. This lack of interest was due mainly to low yields in 1943 and the weedy condition of fields following flax. Handling difficulties also contributed to the farmers' dislike for this crop. Taking all factors into consideration, including the Board price of \$2.75 per bushel, the acreage dropped to 34% of the previous year.

Crop losses from external factors other than drought were relatively light and scattered. Hail damage was severe in parts of the Eastern Irrigation District, and although other local areas received damage, perhaps the greatest losses were suffered on irrigated farms. The flooding of the Pembina, Paddle and Macleod river flats caused extensive damage to crops and farm buildings. The floods in this district were perhaps the greatest on record, and may be attributed to depletion of tree growth and heavy June rains in the area of the headwaters of the rivers.

The area within the Palisser triangle of south-eastern Alberta again underwent drought conditions.

The light snows of the winter of 1943-44 combined with less than average rainfall in spring and summer resulted in rather extensive areas having crop yields of less than four bushels per acre. Farmers in these districts received assistance under The Prairie Farm Assistance Act, and have also been aided by a free freight policy on baled hay to maintain breeding stock of their live stock herds. Although all townships likely to qualify under The Prairie Farm Assistance Act have not as yet been named, it is estimated that about 600 townships representing 9,000 to 10,000 farmers will eventually be compensated for at least a portion of their crop losses. Of these townships, an estimated 470 will have average yields less than four bushels per acre, while in the remainder yields will be from four to eight bushels.

Crop losses due to weeds, although difficult to estimate, were very noticeable. Dry soil at seeding time provided little opportunity for pre-seeding tillage, and later heavy rains over the central part of the Province made the control of perennials difficult.

Control over grain deliveries to elevators by the Canadian Wheat Board continued to operate. However, due to more shipping facilities becoming available, delivery quotas were opened on wheat

soon after threshing was completed. Farmers were also able to deliver carload quantities of malting barley early in the season. A strong demand for this type of grain on the export market resulted in the acceptance of barley for malting purposes which under normal conditions would not have been considered suitable. Oats alone, at the end of the year, still had delivery restrictions at certain points, while at many other points all quotas were removed.

Interest in grain as a ready cash crop has been reflected in the demand for registered and certified seed for farm use. Seed supplies cleaned and sealed to grade were insufficient to meet requirements. This seed shortage can be attributed largely to seed cleaning difficulties due to shortages of experienced farm labour for this purpose.

Large quantities of commercial seed oats had to be shipped for 1944 seeding into the west central part of the Province, particularly to that area west of Red Deer, because of frost injury to the 1943 crop. Soon after the frozen crop was taken off, farmers were reminded that seed requirements must be made known and orders placed for seed, because there would be danger of the best seed being shipped to an unlimited market in parts of eastern Canada where oat crops had been a complete failure. The Alberta Seed Growers' Association, the Peace River Seed Growers, and many grain companies shipped large quantities of seed oats from Alberta. However, our farmers were first given the opportunity of obtaining the seed they needed.

Approximately 550,000 pounds of legume and grass seeds were held in reserve for Alberta farmers against an apparent unlimited eastern and export demand. This seed was made available to farmers at cost through facilities provided by the extension service.

Alfalfa and clover seed production has continued to increase in the grey or wooded soil sections of the Province. With this increase, new problems related to the crops have been encountered and, in particular, information on harvesting and threshing methods has been constantly requested. While some assistance has been given, it is felt that considerable effort should be made to provide more specific information on this subject.

Contract crops such as peas for seed, vegetable seed, canning crops and sugar beets continue to be grown on irrigated farms in the southern part of the Province. Rape and mustard seed have been produced under contract, and appear to be more satisfactorily grown on the open prairie of the wheat belt. Peas have been successful on the black and wooded soils. However, these new crops present difficulties to many farmers who lack experience or knowledge in production methods.

The following table gives the acreage and production of field crops in Alberta in 1943 and 1944:

Crop	1943 Acres	1944 Acres	1943 bus. per acre	1944bus. per acre	1943 Bushelage	1944 Bushelage
Spring Wheat	4,829,000	6,738,000	16.6	16.8	80,000,000	113,400,000
Oats	3,676,000	3,191,600	35.1	38.6	129,000,000	123,100,000
Barley	2,239,000	1,941,900	25.0	27.3	56,000,000	53,100,000
Fall Rye	54,800	82,150	14.0	15.0	766,000	1,233,000
Spring Rye	47,400	48,500	9.9	5.0	468,000	241,000
All Rye	102,200	130,650	12.1	11.3	1,234,000	1,474,000
Peas	28,200	22,000	14.0	11.5	395,000	253,000
Beans	800	300	12.0	18.0	10,000	5,000
Mixed Grains	80,600	50,600	27.0	32.0	2,176,000	1,619,000
Flaxseed	550,000	191,500	6.0	6.5	3,300,000	1,243,000
Potatoes	31,200	28,700	cwt.	cwt.	cwt.	cwt.
Turnips, etc.	4,200	4,400	100.0	107.0	420,000	471,000
Hay and Clover	657,800	702,700	tons	tons	tons	tons
Alfalfa	226,000	249,200	1.55	1.40	1,020,000	984,000
Fodder Corn	10,700	11,000	2.20	2.30	497,000	573,000
Sugar Beets	29,100	28,700	4.60	6.30	49,000	69,000
			10.24	11.74	298,000	337,000

FORAGE CROP POLICY

The establishment of a permanent type of agriculture in this Province is dependent on a more general use of forage crops. Adequate soil conservation, practical weed control, successful live stock production, and efficient farm management require employment of grasses and legumes in the cropping programme. During recent years the Field Crops Branch has devoted considerable attention to the promotion of these crops.

The initial problem was to introduce the most suitable kinds of grasses and legumes and to acquaint farmers with successful seedling and management practices. For this purpose the Provincial Government, at times in conjunction with the Dominion Government and Municipalities, sponsored encouragement policies under which farmers obtained limited quantities of seed at reduced prices. Although there is an obvious need for the continued application of these policies in many districts, there are now extensive areas where their initial objective has been fulfilled, with the result that attention is now required in assuring adequate supplies of seed and promoting a more general and proper utilization of these crops.

The Forage Crop Encouragement Policy in operation during 1944 established a reserve of grass and legume seeds for Alberta farmers, and provided readily available seed ordering and delivery facilities. Although the Policy permitted the purchase of limited quantities of seed by farmers in a few approved areas at approximately two-thirds cost, most of the seed was sold at full cost, freight prepaid. At 225 strategically located points throughout the Province facilities for seed distribution were established.

Because there was a strong demand for Alberta grown grass and legume seeds on the export market, a particularly important function of the Forage Crop Policy was to reserve adequate supplies of seed to meet the needs of farmers.

A summary of seed distribution in 1944 is as follows:

Kind of Seed	1942	1943	1944	Price
Alfalfa	98,238	143,323	161,000	33c
Red Clover	7,450	12,095	8,925	31c
Alsike Clover	6,450	13,089	26,200	28c
Sweet Clover	26,185	75,759	85,000	12c
Timothy-Alsike Mixture	3,115	3,486	6,000	18c
Timothy	12,690	37,003	40,000	10c
Crested Wheat	41,225	53,640	44,436	13c
Red Fescue		1,494	2,000	50c
Red Top	340	550	220	25c
Brome	68,253	163,706	152,000	15c
	263,936	504,055	525,781	

Alfalfa and brome are in greatest demand, and are being seeded in all sections of the Province. Crested wheat is largely confined to the drier, open prairie sections. Red clover, alsike and timothy are in demand in the grey and black soil areas where the precipitation is greater.

In conjunction with the Forage Crop Policy, the Field Crops Branch has stressed the importance of proper legume inoculation, careful seeding and management practices and the use of grass-legume mixtures for forage purposes. Farmers in districts suitable for seed production have been supplied with the best seed obtainable.

FIELD PEAS ENCOURAGEMENT POLICY

The success which has attended the production of field peas in recent years indicates that this crop may warrant a more important place in the cropping programme of the mixed farming areas of Alberta. In order to obtain further information in this regard, the Field Crops Branch shared the cost of supplying four-bushel lots of seed to each of 25 farmers, who entered an agreement to pay approximately one-half the cost of the seed, to adopt recommended seeding and harvesting practices, and to report the results obtained. The crops produced were relatively satisfactory to most farmers, and reports would indicate that a large acreage will be devoted to field peas in 1945.

The production of seed peas under contract with seed firms who had previously restricted their activities largely to southern Alberta, was extended to the Wetaskiwin, Leduc, Bon Accord, and Fort Saskatchewan districts in 1944. The yields obtained were quite satisfactory where the land was relatively free from wild oats; however, the exceptionally heavy weed infestations which occurred this season reduced yields and presented harvesting problems on many fields where little difficulty had otherwise been anticipated.

CREEPING RED FESCUE ENCOURAGEMENT POLICY

Because creeping red fescue possesses many qualities which have proven highly desirable for pasture and hay in Alberta, and because the seed of this grass is not being produced in sufficient quantities to meet requirements, the Field Crops Branch sponsored an encouragement policy under which 24 farmers in selected areas were supplied with limited quantities of seed at half-price. From reports received from these growers it would appear that most of this seed was sown with the object of seed production, although some was included in hay and pasture mixtures as a test of its value for such purposes. It will be necessary to observe the results of these seedings in 1945 before any decision can be made as to the effectiveness of the Policy.

It is interesting to note that two established growers produced an estimated 142,000 lbs. of registered and certified red fescue seed this season on 374 acres of land, and that this quantity represented approximately 85% of the total amount inspected in the Province.

PRODUCTION AND SALE OF REGISTERED AND CERTIFIED SEED

The production of registered and certified seed continues to hold an important place in our farm economy. If we are to maintain our strong export market for seed as well as for commercial grain, it is essential that a good supply of carefully selected seed stocks be

available to grain growers in Alberta. We are particularly favoured by a soil and climate conducive to the production of high quality seed, and have developed an increasing demand for Alberta grown seed in Eastern Canada and the United States.

The higher general level of returns for cereal grains which has prevailed during the past two years directed increased attention towards the importance of seed stocks, with the result that there has been a definite increase in local demand for good seed, particularly of the coarse grains. On the other hand, seed growers have been handicapped by wartime shortages of labour and seed cleaning machinery. Consequently, a large volume of the seed crop eligible for the best seed grades has been marketed commercially without being processed to meet the requirements for registration or certification.

A relatively large number of new growers had small acreages of the newer varieties of oats and barley inspected in 1944. This perhaps is due to widespread interest in varieties suitable for combine harvesting.

The following is a summary of the crops inspected for registration and certification this season:

Kind of Seed	Registered Seed			Certified Seed		
	No. Growers	Acreage	Est. Yield (bus.)	No. Growers	Acreage	Est. Yield (bus.)
Wheat	129	4,111	126,041	9	520	15,629
Oats	309	8,785	472,765	93	4,326	234,845
Barley	71	1,084	39,541	35	970	37,770
Flax	39	1,036	13,447	18	413	6,083
Peas	1	4	133	9	84	1,385
			lbs.			lbs.
Vegetables	9	11	240			
Alfalfa	111	1,974	247,890	22	527	54,450
Brome	5	164	10,300	183	9,235	1,174,725
Crested Wheat	9	203	34,600	8	235	31,400
Creeping Red Fescue	2	27	12,300	14	693	168,000
Red Clover	2	9	1,200			
Timothy	1	9	2,500			
Sweet Clover	1	8	2,000	6	60	12,500

FORAGE CROP SEED PRODUCTION

The marked increase in acreage seeded to forage crops in recent years may be attributed to four principal causes. Under the Wheat Acreage Reduction Policy farmers were encouraged to replace wheat by some other crop, and received a bonus on land seeded to forage crops. Again the Provincial Forage Crop Policy added encouragement by making forage crop seeds more readily available at attractive prices. Insistent and repeated recommendations by agricultural authorities and extension workers are generally gaining recognition by the farming public, particularly those whose interest in good forage has sprung from wartime demands for increased marketings of beef and dairy products. Further, some areas in Alberta have proven exceptionally well adapted to grass and legume seed production. All these factors, together with the strong export market for seed at attractive prices, have tended to stimulate forage seed production in Alberta.

The production of clover seeds continues to increase in popularity throughout the grey wooded soil areas, but the failure of alfalfa to set satisfactory seed yields in many districts has been quite disappointing. Exceptionally profitable returns from sweet clover seed crops have encouraged a large increase in production, and unless export markets absorb greater quantities a considerable decline in its price and popularity is expected.

Attention is required in directing farmers to employ a proper balance in the amount of land devoted to forage crop seed production. Much of the seed presently produced is eligible only to commercial grades, and increased effort must be made to improve its quality. Growers generally are not inclined to recognize the specialized nature of a sound seed production programme. As a relatively new crop for many districts and with wartime markets readily absorbing all offerings, clover seed production has been very encouraging, even to inexperienced growers. Although some farmers in favoured localities have failed to take advantage of their opportunities in this regard, others have sown a large part of their cultivated land to these crops, and may encounter financial difficulties if their crop fails to set seed or to be in demand.

The production of Ferax alfalfa seed has not met with as much success as was expected. Difficulties experienced in obtaining satisfactory yields are somewhat similar, although possibly not as extreme, as with the more commonly grown Grimm. Eight growers had a total of 55 acres inspected for registration. Because of the poor set of seed and the difficulty in providing sufficient labour to destroy weeds, it was decided to abandon the requirement that seed of approved stock be sown in rows, and several broadcast seedings were made.

Improved methods of harvesting forage seeds are attracting considerable attention. A more general use of combine harvesters to thresh directly from the field or from the windrow is noteworthy.

The cleaning, grading, packaging and marketing of grass and legume seeds present special problems which have stimulated interest in growers' co-operatives. The Alberta Seed Growers' Association with its affiliated local district associations operate large, well equipped seed cleaning and warehousing establishments at Camrose and Coronation. Sixteen smaller warehouses of the Association for assembling seed shipments were in operation at other points in the Province. Other co-operatives located at Grande Prairie and at Pincher Creek provided similar services for seed growers in their respective areas.

The following figures give the estimated production in Alberta of the most important forage seed crops:

	Average 1937-41, lbs.	1942 lbs.	1943 lbs.	1944, lbs.
Alfalfa	421,000	2,000,000	1,450,000	2,500,000
Sweet Clover	597,000	2,000,000	1,500,000	3,500,000
Red Clover	110,000	240,000	450,000	400,000
Alsike	130,000	430,000	200,000	450,000
Timothy	880,000	1,350,000	1,000,000	1,200,000
Crested Wheat	320,000	250,000	300,000	150,000
Brome	1,750,000	3,500,000	4,000,000	3,500,000
Creeping Red Fescue	39,000	120,000	190,000	200,000

The Alberta Crop Improvement Association.

This Association has concerned itself particularly with the problems of encouraging a wider use of registered and certified cereal grains. Through co-operation of the grain companies and the Alberta Seed Growers' Association arrangements have been made whereby grain elevator agents are authorized to accept farmers' orders for registered and certified seed. The Association facilitates the ordering of seed by farmers and has made good progress toward meeting its objective of seed distribution.

The Association is directed by a committee in which are represented the North-West Line Elevator Association; the farmer-

owned Elevator Companies; the Plant Production Service, Dominion Department of Agriculture; the Alberta Seed Growers' Association; the Canadian Seed Growers' Association (Alberta Branch); the University of Alberta; and the Alberta Department of Agriculture.

Registered and certified seed grain marketed directly through the Alberta Crop Improvement Association in 1944 in comparison with previous years was as follows:

	1941, bus.	1942, bus.	1943, bus.	1944, bus.
Wheat	16,000	5,961	3,000	9,232
Oats	99,000	34,659	10,500	16,011
Barley	4,500	4,349	2,500	6,579
Flax		868		1,215

In addition to the above, the activities of the Association stimulated more widespread interest in the use of good seed. Available supplies were widely advertised through country elevators, and as a result many bushels of which no estimate could be made were obtained by farmers.

The Alberta Varietal Zonation Committee.

The purpose of this committee is to co-ordinate the findings of the various experimental agencies in the Province and to recommend the varieties of field crops best suited to the different agricultural zones in Alberta.

The committee is composed of representatives of the following: Department of Plant Science and Department of Soils, University of Alberta; Provincial Field Crops Branch; Provincial School of Agriculture; Dominion Experimental Farms Branch; Plant Products Division, Dominion Department of Agriculture; Dominion Laboratory of Plant Pathology, Edmonton.

The recommendations of this committee were printed in bulletin form by the Field Crops Branch and widely distributed throughout the Province.

Certified Seed Potatoes.

The number of growers of foundation and certified seed potatoes and the total marketings of the 1943 seed crop officially graded and tagged were as follows:

Variety	No. of Growers	Quantity, cwt.
Netted Gems	37	3,616
Carter's Early Favorite	3	70
Chippewa	1	20
Early Ohio	1	16
Warba	1	8
Irish Cobbler	1	6

The acreages of 1944 seed potatoes which passed field inspection in 1944 were:

Netted Gems	226	Irish Cobbler	3
Early Epicure	12	Warba	2
Carter's Early Favorite	6	All Others	3

Growers were encouraged by the Field Crops Branch to increase their acreage in order to provide a supply of disease-free stock where bacterial ring rot has been reported. Nine carloads from the Lacombe district and one from Bon Accord were shipped to Lethbridge in the fall of 1944 for spring planting.

Indexed Foundation Seed Potatoes.

In order to maintain the production of good quality seed potatoes the Field Crops Branch continued to assist in producing indexed foundation stock. Through co-operation with the University of

Alberta and the Seed Potato Inspection Branch of the Dominion Department of Agriculture, 1,012 tubers were tested in the greenhouse for freedom from disease. From these, eight growers received approved indexed stocks of seed of four different varieties. The foundation stock so produced should have a marked effect on improving the type of potatoes grown in the Province.

PORTABLE SEED CLEANERS

The policy of assisting groups of farmers to obtain portable grain cleaners continued in operation in 1944. Two new associations, namely Dickson and Willingdon, came under the policy this year. Many other requests for machines were received, but could not be accepted because suitable equipment was not obtainable. The interest in seed cleaners is encouraging because it shows that many communities are becoming more weed conscious and are organizing in an attempt to combat their weed problems.

Associations now operating seed cleaner units obtained through Government assistance are as follows: Dickson, Willingdon, Innisfail, Gage, Berwyn, Fairview, Camrose, Grande Prairie, Airdrie, Sangudo, Cherhill, Springbank, and South Edmonton.

JUNIOR CROP CLUBS

Junior Crop Clubs were re-organized by this Branch in the spring, and seed was supplied as usual. After clubs were well started on their season's work their supervision was transferred to the School of Agriculture, Olds. During the autumn the staff of this Branch held 45 Junior Club Seed Fairs in the central and northern part of the Province, and conducted the elimination contests in seed judging for the Provincial championship. When these phases of the work were completed the returns were reported to the Supervisor at Olds.

A member of our staff accompanied the four Alberta Junior Club teams to the national judging competitions held at Toronto and Guelph, and also acted as Alberta's representative at meetings of the National Council on Boys' and Girls' Club Work.

PROVINCIAL JUNIOR GRAIN SHOW

The annual Provincial Junior Grain Show, which proved so successful during the two previous years, was well supported again this year. It was held at the School of Agriculture, Olds, at the time of their "Little Royal" in March. Only one quart of grain was required for an exhibit, so that it became largely a contest in the skill of the exhibitor in producing and preparing his exhibit. Such a challenge has an appeal to farm youth. High standards of seed are established in the minds of both the exhibitors and visitors, and greater discrimination is developed in appraising the value of grain and seed.

Competition was open to all Alberta farm young people between the ages of 12 and 22 years (inclusive). There were 99 entries in the three open classes in wheat, oats and barley, and the quality of the exhibits was generally of an exceptionally high standard. In order to encourage entries from new exhibitors, special prizes were offered. Thirty-seven per cent of the exhibits shown were from this type of exhibitor.

A total of 400 samples of grain and seed were on display at the show. Many visitors viewed the exhibit during the day of the

"Little Royal," and later the display was set up at the time of the Junior Farm and Home Week at the Olds School of Agriculture in July.

WEED CONTROL

The spring of 1944 was dry. This favoured farm operations, and the crop, as a result, was seeded under ideal working conditions. The dry spring, however, retarded the growth of grain crops, and gave weeds a very good opportunity to become established. In central Alberta more than the normal amount of moisture was received during the summer. The weather was showery, and effective summer fallowing was difficult or impossible. Canada thistle, sow thistle and wild oats, as a result, increased considerably during the season. In southern Alberta and most of the Peace River area, dry weather prevailed during the summer, and many of the cereal crops were very weedy.

The value of rotations containing forage crops over the straight grain growing practices was again apparent in controlling weeds. Forage crops successfully compete with weeds in the wet years when effective cultivation is difficult, as well as in the drier seasons.

In order to arouse interest in soil conservation and to demonstrate practical methods of weed control, several demonstration plots were laid down in various parts of the Province. Some plots demonstrated proper tillage practices, others are designed to illustrate the use of forage crops and competitive crops in weed control, while still others demonstrated the value of fleshy rooted legumes in "opening up" and increasing the fertility of the heavy clay soils. The weed control projects in 1944 included plots of forage crops, fall rye and fallow. The plots on heavy clay included alfalfa, sweet clover, white Dutch clover and alsike clover both singly and in mixtures with brome, crested wheat and creeping red fescue.

Weed inspectors are being requested to encourage the use of forage crops and competitive crops such as early barley and fall rye. Such crops are valuable in controlling weeds and allow a crop to be grown during the "cleaning up" process. Summer fallow when properly done, is effective on most weeds, but is expensive. It also encourages soil drifting and water erosion in many instances.

Six supervisors, 26 improvement district inspectors, and 155 municipal district weed inspectors formed the field staff in 1944. The improvement district inspectors are directly responsible to the Field Crops Branch, and the success of their work is directly attributable to the better co-ordination of effort. Several of the new enlarged municipal districts are taking a definite interest in weed control. Qualified weed inspectors have been appointed on the yearly basis, and the remuneration is more nearly adequate. The improvement in weed control in these districts is encouraging. Where a progressive weed inspector has been hired by a municipality it has given a closer contact with the Department, better use has been made of the information available through the Department, and the weed control programme in general has been placed on a sound basis. In those municipalities in which a qualified weed inspector has been appointed it is noticeable that public opinion is behind the work. Farmers are co-operating and funds are readily available.

The weed inspector who is appointed on the yearly basis has time to plan and institute a long-term programme which will safeguard the productivity of the soil in the municipal district. He has an opportunity to meet the farmer not only once or twice during the season, but as often as the problem seems to warrant. In this way he can obtain the confidence of the farmer and enlist his co-operation and support.

Some districts have gone a step further and have appointed an advisory committee consisting, in most cases, of one councillor, the local District Agriculturist, the weed inspector and a farmer representative. While the duty of the committee is to advise on agricultural problems in general, the effect of such an advisory body in assisting the weed inspector to institute a sound weed control policy has been most encouraging. The formation of more advisory committees is highly desirable.

The disadvantage of a district appointing several weed inspectors for a short period during the season, on the other hand, is quite apparent. The weed inspectors do not have time to formulate or institute an aggressive programme, but act merely as policemen during their short term of office. "Part time" employment does not attract highly qualified men or encourage them to study the problem in order to become better qualified. The result is that the farmer is antagonized through being compelled to destroy crop or take land out of production by someone who cannot assist him in solving his problem. As a typical example, one municipal district appointed 11 weed inspectors for a short period in midsummer at a cost of \$4,000. The Council admitted that their weed programme was a failure.

The quantity of sodium chlorate purchased in 1944 was increased from 40,000 pounds to 60,000 pounds. Most of this material was used in combatting deep rooted perennials. It was distributed at cost to farmers through municipal offices and by weed inspectors. Infested lake shores were still a source of annoyance, but some progress has been made in bringing the weed condition on them under control. The Department of Lands and Mines has co-operated in making available attractive leases where farmers would agree to follow certain recommended practices to control weeds. The Department of Agriculture has assisted the lessee by supplying certain quantities of grass seed to be used in bringing weeds under control.

Seed germination studies with tartary buckwheat were continued both by Norman G. Lewis, Dominion Supervising Seed Analyst, Calgary, and by the Department of Botany at the University of Alberta. Mr. Lewis also carried on germination studies with other weeds, including wild oats, wild mustard and toad flax.

For many years farmers, municipal councils and the Provincial Department of Agriculture have recognized the need of obtaining fundamental information to be applied in the control of persistent perennial weeds. It is encouraging, therefore, to note that the Dominion Department of Agriculture has established weed control stations at Dalroy and Bowden on hoary cress and leafy spurge respectively. While the shortage of help is interfering with the work at present, a start has been made and further development is expected in the post-war period.

FERTILIZER TRIALS

Co-operative fertilizer trials were carried on in conjunction with the fertilizer companies again in 1944. This project consists of trials with various fertilizers on cereals, legumes and grasses on the black, brown and grey wooded soils.

The object is to obtain reliable information regarding the fertilizer requirements of various crops in the different soil zones. The work has been carried on for a number of years, and the information obtained, together with information contributed by the Soils Department of the University of Alberta and the Dominion Experimental Station, forms the basis for the publication "Suggestions for the Use of Fertilizers in Alberta."

PEST CONTROL

There has been nothing spectacular in Alberta's pest situation this year. No serious outbreaks occurred. The distribution and intensity of some pests showed an increase, while in other cases a slight contraction was evident. One or two new crop pests made their appearance for the first time this year, and served to emphasize the fact that the general trend is toward a gradual increase in the crop pest problem with respect to both diseases and insects.

INSECT PESTS

Grasshoppers.

After a steady reduction for five years, the grasshopper population showed a considerable increase this season. The egg crop last fall was heavy in some districts, but the hatch was late this spring and the outbreak correspondingly difficult to forecast. The fact that farmers used more than five times as much poison bait this year as in 1943 demonstrates the comparative seriousness of this pest in the past two seasons. This year, 84,000 bushels of bait were used, a large portion of it for the protection of specialized crops and cover crops. Adult grasshoppers were present in large numbers in the Nobleford, Vulcan, Stavely, Macleod rectangle, and were a serious menace in late summer to crops utilized for the control of soil erosion.

Flax crops suffered heavily where farmers failed to use bait in time to save them but, generally speaking, crop losses due to grasshoppers were light considering the heavy population of adults. It is estimated that approximately 11,000 acres of crop were lost, while an additional 80,000 acres were saved from destruction by the bait campaign. The value of recommended cultural practices in the control of grasshoppers is gradually being recognized, particularly in areas where annual infestations occur, and farmers have been urged to use surface cultivation to reduce the heavier population which is forecast for 1945.

The following table gives some data comparing the 1943 and 1944 grasshopper campaigns:

	1943	1944
Acres of land in area	19,750,000	8,500,000
Acres of crop land menaced	100,000	295,000
Number of stations operated	20	26
Bushels poisoned bait spread	15,000	84,000
Number of farmers receiving bait	256	1,022
Estimated acres of crop destroyed	6,000	11,000
Estimated acres of crop saved	15,000	80,000

Wheat Stem Sawfly.

The general sawfly situation has not changed greatly in the past year. This pest continues to be the greatest hazard of wheat production in Alberta. A dangerously high population of sawflies was present over an area comprising 10,500,000 acres, including the Province's best wheat growing territory. Parasitization has temporarily reduced sawfly numbers in some areas of heavier soil and better rainfall, while other sections of the infested area have shown a considerable increase in numbers.

Losses were extensive again this year in the south and south-western part of the Province, and were particularly severe in the area enclosed by a line drawn through Milk River, Bow Island, Bassano, Carseland, High River and Macleod. Damage in some wheat fields ran as high as 80 to 90%, and special harvesting equipment was brought into use on many farms to harvest the damaged crops. The total estimated loss in this Province this year is 7,000,000 bushels of wheat. Publicity was continued and intensified to encourage the use of crop rotations, delayed seeding, and trap crops for the control of this insect.

Minor Crop Pests.

Say's grain bug damage was slight, but in some southern sections the population has increased considerably over the previous year.

Wireworms caused serious losses to grain crops in the central part of Alberta near the Saskatchewan boundary, where the soil was loose and dry at seeding time. Extensive thinning of crops occurred over large sections, particularly on the lighter soils. Potatoes and other root crops were tunnelled extensively throughout central Alberta.

Cutworms damaged crops in the Claresholm-High River area, and damage to sugar beets on irrigated land in southern Alberta was noticeable. The red-backed cutworm population in the Peace River area has increased to the danger point, and some damage to crops occurred in the Berwyn and Grande Prairie districts.

Colorado potato beetles, which invaded much of central Alberta in 1942 and 1943, were less abundant there this season. Their area of occupation had contracted considerably. In southern districts, however, the damage to potato crops was about normal.

One case of psyllid infestation was found in a greenhouse at Drumheller and one at Medicine Hat. At Drumheller, psyllid yellows had reduced the tomato crop by about 50%, and was found to be affecting potato crops for some distance around the source. The infestations were cleaned up.

Certain insect pests including a species of lygus and an unidentified midge were present in large numbers in red clover crops on gray soil in the Warburg-Thorsby district. The extent of their contribution to the partial seed crop failure there was not determined.

The western potato flea beetle and the western wheat aphid made their appearance in southern Alberta this year. In each case the outbreak was very restricted, but some damage did occur. There is also some reason to believe that weevils in pea and bean crops may become a problem in that part of the Province. It is

still impossible to determine the significance of these new developments.

Rodents.

The Columbian ground squirrel was again destructive to grain and hay crops and gardens in the foothills section of the Province. Supplies of a special poison bait preparation were distributed to residents in the affected area on a test basis. Further work to improve control measures for this pest will be continued.

Warble Flies.

Warble flies caused cattle to gad this season throughout the Province except where treatment had been undertaken on a large scale in the spring. In the campaign against this pest this year some 400,000 cattle were treated. The use of pressure spraying equipment for treating cattle in ranch areas was greatly extended and proved very effective. Some localities are suggesting legislative assistance toward the eradication of the pest and the maintenance of their communities as warble free areas.

CROP DISEASES

Crown rot continued to cause some losses, particularly in old alfalfa stands, though damage was less severe than in the previous season.

Bacterial wilt of alfalfa again damaged crops in southern irrigated areas, and has now become established in fields in central Alberta. The significance of this fact cannot yet be fully appraised.

Bacterial Ring Rot.

It has been necessary each year from 1937 until 1943 to acknowledge a serious deterioration in Alberta's bacterial ring rot situation, in spite of strenuous efforts to stop its progress. This year, however, it can be shown that definite progress has been made toward the control of this disease.

The epidemic is still mainly confined to the irrigated areas centering at Lethbridge and Brooks, and the market garden areas at Calgary, Drumheller and Medicine Hat. These sections are now all constituted pest areas under the Agricultural Pests Act, and a virtual quarantine exists in these districts. A special precautions area was established this year in the last large commercial potato growing section of the Province centering on Edmonton. Two farms were found infected in this area.

The general spread of ring rot in this Province since the first case was discovered in 1937 is shown by the following table:

	1937	1938	1939	1940	1941	1942	1943	1944
No. of Farms inspected			680	261	430	406	965	1,010
No. of Farms found diseased	2	23	40	73	102	151	235	241
Acres of diseased crop found			180	674	693	982	1,775	1,620

An analysis of the ring rot problem shows that the progress of control in the various pest areas is fairly satisfactory considering the contagious nature of the disease, and that while some areas showed an increase in acreage of crop affected, all sections of the Province in which the disease occurs have shown signs of improvement under present control measures. The data presented immediately below shows the change in the ring rot situation by districts in the last twelve months as found by the 1943-44 surveys:

District	Farms Infected		Acres Infected	
	1943	1944	1943	1944
Lethbridge	216	220	1,712	1,369
Medicine Hat	2	2	1	70*
Drumheller	3	2	6	6
Brooks (E.I.D.)	8	11	35	106
Calgary	6	4	21	3
Edmonton		2		62
	235	241	1,775	1,616

*One new grower had 69 acres of diseased crop at Medicine Hat.

The two main factors by which we can measure the effectiveness of control are: (1) the number of farms found infected and (2) the intensity of the infection in the crops on those farms.

The data presented below shows that the rate of increase in the number of infected farms as found by annual surveys conducted by the Department has been high until the present year:

Year	Infected Farms	Increases over previous year
1939	40	
1940	73	33 or 82.5% increase
1941	102	19 " 39.7% "
1942	151	49 " 48.0% "
1943	235	84 " 55.6% "
1944	241	6 " 2.5% "

NOTE.—While a part of the increase in the number of farms found diseased from year to year is due to the extension and improvement in the surveys conducted, it can be said that the 1944 survey was the most satisfactory and covered the greatest area of all surveys to date. For this reason the last figure in the above table showing the significant reduction in the rate of spread is particularly encouraging.

The progress achieved in reducing the intensity of ring rot infestations on our farms can be gauged by the fact that in 1939, when this Department conducted its first exploratory survey, fields showing from 25 to 35% of plants diseased were very common. In 1941 the average intensity had not lessened; 1943 showed a considerable decrease in the number of diseased plants per acre; while this year the average intensity over all the fields found diseased was 4%, with only 45 acres of potatoes in the Province showing more than 10% infection in the field.

The factors contributing most to the encouraging reduction in the spread and intensity of ring rot in this Province this year have been: (1) the supplying of large quantities of disease-free seed potatoes to growers in pest areas, and (2) the extension and more rigid enforcement of our quarantine regulations. A still greater use of these agents is desirable.

FARMSTEAD PLANNING SERVICE

The growing demand for information on the planning and planting of home grounds has induced the Department to establish a service for Farmstead Planning. This service undertakes to investigate the problems involved, to seek practical solutions for them, and to bring this information to the farmers who require it.

The present unsatisfactory layout of many Alberta farmsteads is often the direct result of pioneer conditions where the primary considerations were access to open water and natural shelter, or perhaps proximity to neighbours or to portions of the farm most easily brought under cultivation. Now with towns and markets, roads and means of rapid transportation, cleared farms and settlement all around, proximity in some cases to electric lines and hard surfaced highways, conditions have so completely changed as to leave the outgrowth of pioneer farmsteads entirely inadequate for modern circumstances. As old buildings require replacement, farmers are concerned with the improvement of the old home site,

or locating a new one. Many returning veterans will also be establishing new homes on the land.

As a rule, establishing a home is undertaken only once in a lifetime. Many farmers have been deterred from farmstead improvement because they have not felt entirely competent alone in drawing up a satisfactory plan or in deciding upon the most suitable plantings. Few have had experience, and hence many hesitate to make a start. In view of the permanence of buildings, plantings, wells, etc., it is of utmost concern that the common mistakes of haphazard development be avoided and that efficiency and lasting satisfaction be achieved. Good planning takes the long-term view and provides for the finished pattern in the years to come.

Observation has shown that among the more common mistakes in haphazard farmstead development are: poor drainage; inconvenient arrangement of buildings, yards and lanes; too complete clearing off of native trees; and new plantings put into wrong places.

In any farmstead planning programme, labour-saving considerations are of primary importance. Buildings and the various services should be within reasonable proximity and conveniently placed with relation to each other. The well and water supply can be arranged to save their cost many times over. The poultry house and garden should be located handy to the kitchen. The farm home owner enjoys greater opportunity for beautifying his surroundings than his city neighbour, for he, as a rule, has greater scope and more natural beauty to utilize. Farmstead improvement is a venture in self-expression. With a little practical planning, bold effort, and at small cost most of the drudgery can be eliminated to make life on the farm most satisfying.

There is, perhaps, no one phase of planning home grounds that is more obscure in the minds of farmers or more controversial than that of farm shelter-belts. Fortunately, enough shelter-belt planting was undertaken from twenty to forty years ago to demonstrate that with proper precaution they can be successfully grown in every part of the Province. The ideal in shelter-belts for this Province has probably not yet been demonstrated or even tried. There is great scope and urgent need for further experiment and demonstration toward the growing of better shelter-belts in Alberta.

In organizing the Farmstead Planning Service, farmers' application forms and cross-section graph sheets were prepared and have been supplied to the offices of all District Agriculturists. Farmers wishing to avail themselves of this service are asked to complete the questionnaire and draw a rough sketch to scale, showing the relative location of all permanent buildings, wells and fixtures and of the passing roadway. The questionnaire asks for full information regarding direction of drainage, extent of slopes and water-courses, and some of the personal preferences of the owners. It is considered that a farmer who will put forth the effort to complete the application form and a sketch of his grounds is also sufficiently interested to make good use of a plan especially designed for him. Where it is felt necessary and where it is practical, a personal inspection of the farm is made, and the applicant is interviewed for further information. Some 50 applications have been received, and reasonable progress is being made.

Plans designed by this service indicate the outside boundaries of the farmstead, and show the width and type of shelter-belt recommended for each side according to the exposure. The various areas allotted for each division are arranged to conform to the established buildings and fixtures. Areas are provided for additional services required on the farm but not otherwise indicated on the farmer's sketch. The farmyard is laid out in the nature of a central courtyard connecting all the farm and home services, with the most convenient arrangement of lanes to road and fields. Consideration is given to the grouping of areas which do not require fencing. Appropriate lawn area and tree and shrub plantings about the house are designed to provide shelter, shade and landscape beautification for the home. For farms where buildings and fixtures have already been permanently established, no standard pattern is adequate. Each plan must be designed for each particular location and set of fixtures. This also holds true where creek banks or irrigation ditches modify circumstances. It will be seen, therefore, that this service can prepare farmstead plans for individual farms for only a comparatively few of the farm homes of the Province. It is hoped, therefore, that as many farmers as possible will undertake to design their own plans to their own satisfaction.

By way of assistance, the Department has available for free distribution helpful bulletins on "Planning and Beautifying the Home Grounds," "Recommended Varieties of Trees, Shrubs, Fruits and Vegetables for Alberta," "Planting of Evergreen and Deciduous Trees," and other horticultural topics. A series of lantern slides in natural colour is being prepared for use at public meetings to show the progress that has been made in farmstead development. In this way demonstration can be brought to remote districts during the winter when farmers can best get together. Upon request a number of public meetings have been held where farm improvement problems have been discussed.

It would appear that wider benefits may accrue from educational effort and demonstration than from the actual designing for individual farms. However, a limited amount of designing for the varied conditions that prevail will serve to bring this service into the closest touch with farmers' needs. It is expected that through continued observation, research and public discussion a satisfactory and perhaps a distinctive farmstead and home improvement programme may develop in this Province. It will be the constant aim of the farmstead planning service to assist farmers in laying out their home grounds for the utmost in economy and efficiency, and to suggest plantings for comfort and lasting beauty.

REPORT OF LIVE STOCK COMMISSIONER

(A. A. CAMPBELL)

Live stock production continues to occupy a bright spot in Alberta. Despite labour shortage, farmers and ranchers alike have found a way of carrying on their normal live stock activities; in fact many have increased their herds. No doubt various labour-saving devices are playing an important role in their major enterprise.

The year 1944 appears as a record year from the standpoint of the number of live stock sold and the total returns from the sale of all classes of live stock. Hogs are leading, with a total of 2,981,940 head sold at a total value of \$78,723,200, as compared to 2,392,384 head at a total of \$60,766,553 in 1943. Cattle marketings have increased considerably over that of last year. However, prices generally have been at a somewhat lower level, especially so for feeder live stock. The unfavourable reflection on the price of feeder live stock was due, at least in part, to the fact that feeder buyers paid relatively too high a price for feeders bought in the fall of 1943. Notwithstanding this fact, however, community auction sales of feeder cattle enjoyed good support at very satisfactory prices to the producers. Well-bred quality feeders sold up to \$10.25 cwt. for finishing on cover crop.

Due to limited supplies of food grains and forage in some areas it was found necessary to reduce the numbers of live stock.

A brisk demand for dairy cows continued throughout the year. Shipments of dairy cattle to Mexico and British Columbia maintained prices at high levels.

June survey of the numbers of cattle on Alberta farms for the past six years is as follows:

Year	No. of Head	Year	No. of Head
1939	1,357,400	1942	1,469,000
1940	1,365,900	1943	1,627,000
1941	1,344,950	1944	1,742,000

The official reports of the Dominion Department of Agriculture show for Alberta the following cattle and calf marketings and total values for 1937 to 1944 inclusive:

Year	Cattle No.	Value	No. Calves	Value
1937	311,506	\$10,310,849.00	139,240	\$2,067,714.00
1938	264,505	8,940,269.00	120,870	1,855,355.00
1939	248,748	10,696,164.00	113,139	1,747,998.00
1940	257,823	12,594,654.00	103,739	1,748,002.00
1941	292,083	17,247,501.00	95,286	1,962,892.00
1942	281,278	21,174,608.00	92,579	2,505,188.00
1943	296,251	25,729,399.00	74,502	2,191,848.00
1944	384,257	32,715,600.00	87,888	2,319,400.00

The above figures are an indication of trends in live stock production in Alberta and the importance of live stock from the standpoint of farm income.

The personnel in the armed forces, as well as civilians who enjoy higher incomes, have developed a preference for good beef. Therefore it is essential that the live stock producers continue the production of good beef in the post-war period, so that a large percentage of their product will continue to qualify in the higher

grades. To accomplish this, good breeding must be combined with good feeding, and in this respect cover crops and the by-products from the sugar factories in southern Alberta play an important part. The total consumption of beef in Canada as well as that of Red and Blue Label Brands is shown in this table:

BEEF AND VEAL CONSUMPTION IN CANADA

Year	Total Beef	Red Brand	Red Brand	Veal	Per Capita Beef	Per Capita Veal
1940	670,343,000	13,203,146	30,530,358	122,931,000	58.9	10.8
1941	719,612,000	16,515,763	33,282,672	126,196,000	62.5	11.0
1942	741,748,000	15,124,207	31,814,709	122,240,000	63.6	10.5
1943	855,784,000	33,994,170	41,720,053	115,043,000	72.5	9.7

BRANDED BEEF SALES IN ALBERTA

	1940	1941	1942	1943
Red Brand	1,607,599	1,774,477	3,283,845	11,638,176
Blue Brand	3,107,947	3,248,626	4,983,124	11,653,101

The above tables clearly indicate that the consumption of beef (as well as meat products) is closely linked with the income and wage levels of the average Canadian. Figures showing sharp increases in the consumption of branded beef in 1943 may be slightly misleading. The main cause of the increase was the fact that all cattle eligible for "branded beef" were branded—a result mainly of the operations of price ceilings. Notwithstanding this fact, however, there was a marked improvement in the quality and finish of the cattle marketed.

ALBERTA CATTLE AND CALF SHIPMENTS TO OTHER PROVINCES AND U.S.A.

	1940	1941	1942	1943	1944
British Columbia	65,977	62,797	69,901	69,513	76,202
Saskatchewan	5,380	5,807	5,493	7,772	8,820
Manitoba	15,409	19,042	21,537	22,134	32,581
Ontario	27,170	10,671	12,797	13,999	25,324
Quebec	14,275	11,341	19,421	26,154	36,312
Nova Scotia					54
United States	48,889	76,534	51,303	254	139
	<u>177,100</u>	<u>186,192</u>	<u>180,452</u>	<u>139,826</u>	<u>179,477</u>

Exports to the United Kingdom.

It is gratifying to note that considerable quantity of Canadian beef (mostly in boneless form) is now moving to the United Kingdom. This will remove from our domestic trade a considerable quantity of beef for which there is very little demand.

Auction Sales of Pure-bred Cattle.

Breeders of pure-bred cattle have experienced one of the most profitable years in Alberta's history. Dispersal or reduction sales of the more prominent herds drew buyers from Manitoba, Saskatchewan and British Columbia. Many animals changed hands at four figure prices. There is a keen demand for pure-bred females as foundation stock, with Herefords becoming increasingly more popular on the smaller farm units in central and northern Alberta. This popularity might be interpreted as a danger signal to the breed. This is so because of the quality of females used to start many of the smaller herds. The last Lacombe Bull Sale is good evidence of what can happen if more careful selection of breeding stock is not practised.

The average price for pure-bred bulls at the Calgary, Edmonton, Lacombe and Lloydminster Bull Sales was lower for all breeds as compared to 1943 prices. The following is a summary of these four sales for the years 1942 to 1944 inclusive:

DEPARTMENT OF AGRICULTURE

CALGARY BULL SALE

Breed	1942		1943		1944	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	176	\$192.47	168	\$324.94	203	\$238.33
Angus	146	184.35	78	310.00	111	262.48
Hereford	401	299.23	379	475.00	529	412.90
Total all Breeds	723	\$174.31	625	\$414.49	843	\$351.06

EDMONTON BULL SALE

Breed	1942		1943		1944	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	50	\$186.20	80	\$223.50	106	\$180.80
Angus	3	191.67	5	248.00	14	225.71
Hereford	4	167.50	4	361.50	21	269.76
Total all Breeds	57	\$185.17	89	\$231.08	141	\$198.51

LACOMBE BULL SALE

Breed	1942		1943		1944	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	23	\$188.91	35	\$226.86	49	\$181.43
Angus	18	195.83	20	248.00	42	176.25
Hereford	35	184.71	50	274.70	99	181.67
Total all Breeds	76	\$188.76	105	\$253.66	190	\$180.41

LLOYDMINSTER BULL SALE

Breed	1942		1943		1944	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	20	\$204.25	37	\$147.69	35	\$168.14
Angus			1	145.00	6	161.67
Hereford	8	290.00	25	287.20	19	301.32
Total all Breeds	28	\$228.75	63	\$205.54	60	\$209.36

Comparatively few pure-bred females of each of the beef breeds were sold at the Calgary and Edmonton Bull Sales. This applies also to the number of females sold at the time of the sheep and swine sales in the fall. The table set out hereunder indicates numbers sold and average price received:

SALE OF FEMALES AT CALGARY BULL SALE, 1944

Breed	No. Sold	Av. Price	Av. Price All Females
Shorthorn	23	\$225.87	
Angus	8	361.25	
Hereford	19	358.94	
Total	50	\$298.09	

FEMALES SOLD AT CALGARY FALL STOCK SALE, 1944

Breed	No. Sold	Av. Price	High Price
Shorthorn	59	\$140.17	\$360.00
Angus	4	112.50	135.00
Hereford	66	170.08	480.00
Total	129	\$154.61	

Eighteen bulls of the beef breeds sold at this fall sale averaged \$178.89.

SALE OF FEMALES AT LACOMBE SPRING STOCK SALE, 1944

Breed	No. Sold	Av. Price
Shorthorn	10	\$129.50
Angus	5	197.00
Hereford	8	187.00
Total	23	\$164.17

SALE OF FEMALES AT EDMONTON FALL STOCK SALE, 1944

Breed	No. Sold	Av. Price
Shorthorn	6	\$261.66
Angus	3	61.66
Total	9	\$194.99

SALE OF FEMALES AT LACOMBE FALL STOCK SALE, 1944

Breed	No. Sold	Av. Price
Shorthorn Cows (no calves)	13	\$123.08
Shorthorn Cows, calves at foot	8	235.00
Shorthorn Calves only (both sexes)	5	85.00
Angus Cows (no calves)	6	80.41
Angus Cow with calf at foot	1	925.00
Angus Cow with calf at foot	1	80.00
Hereford Cows (no calves)	38	163.09
Hereford Cows with calves at foot	11	162.72
Total	83	\$231.79

ALBERTA CATTLE MARKETINGS IN STEER AND HEIFER CLASSIFICATIONS

Table 1—Steers up to 1050 Pounds

Year	Choice	Good	Medium	Common	Total
1939—Number	5,875	17,661	9,873	4,213	37,622
%	15.6	47.0	26.2	11.2	100.00
1940—Number	6,270	20,034	13,133	7,538	46,975
%	13.4	42.6	28.0	16.0	100.00
1941—Number	4,901	17,581	16,054	8,391	46,927
%	10.4	37.4	34.2	18.0	100.00
1942—Number	4,779	19,434	21,496	6,841	52,550
%	9.1	37.0	40.9	13.0	100.00
1943—Number	8,151	26,603	19,970	9,113	63,837
%	12.8	41.7	31.3	14.2	100.00

Table 2—Steers Over 1050 Pounds

1939—Number	3,629	6,460	2,608	598	13,295
%	27.5	48.6	19.6	4.5	100.00
1940—Number	2,679	6,789	3,628	761	13,857
%	19.3	49.0	26.2	5.5	100.00
1941—Number	2,489	7,409	5,501	1,020	16,419
%	15.2	45.0	33.5	6.3	100.00
1942—Number	4,890	11,554	5,026	545	22,015
%	22.2	52.5	22.8	2.5	100.00
1943—Number	19,044	22,003	6,752	850	48,649
%	39.2	45.3	13.8	1.7	100.00

Table 3—Heifers

1939—Number	4,558	14,893	13,805	6,025	39,281
%	11.5	37.9	35.1	15.5	100.00
1940—Number	3,094	13,781	16,017	10,407	43,299
%	7.2	31.8	37.0	24.0	100.00
1941—Number	2,978	13,037	15,510	11,287	42,812
%	7.0	30.5	36.2	26.3	100.00
1942—Number	3,420	16,123	13,380	5,786	38,709
%	8.9	41.6	34.5	15.0	100.00
1943—Number	5,667	15,729	14,082	8,102	43,580
%	13.0	36.1	32.3	18.6	100.00

It is regrettable to note in Table 1 the small percentage of cattle in the higher classifications, which indicates the urgent need for improvement in cattle breeding and feeding methods. Table 2 indicates that cattle of better breeding and finish were marketed at the heavier weights. From Table 3 it may be presumed that farmers market lower grade heifers and keep better quality heifers for replacement purposes.

SWINE

Regardless of persistent reports in the fall of 1943-44 that many farmers were going out of hogs, Alberta swine marketings in 1944 exceeded expectations. The total number marketed is 2,981,940 head. Alberta is leading Ontario in the number of hogs marketed by over 700,000 head. No doubt the Dominion Government bonus of \$3.00 per hog on "A" carcasses and \$2.00 per hog on "B₁" carcasses was of considerable inducement to farmers to maintain hog production.

At present Edmonton hog prices (rail grade basis) are \$16.35 for "A's" and \$15.95 for "B₁'s," with graduated cuts on lower grades. It was gratifying to note that a slight increase in the price of grains this fall did not have any apparent effect on hog production by pure-bred breeders. This was indicated by a keen demand for breeding stock, particularly pure-bred gilts. It is regrettable that

more pure-bred swine breeders do not avail themselves of the opportunity of entering their pigs in the Advance Registry Testing Station to ascertain quality, and economy of production.

Due to lack of demand from commercial swine men for pure-bred boars, many of the better breeders staged a number of their boars early in the season. Consequently, many farmers who made no effort to get their boars early had to be satisfied with mediocre boars.

The production of market hogs in Alberta in the years 1940 to 1944 including the numbers and percentages within each grade is shown in the following table:

There were 170,328 sows marketed in 1944, as compared to 136,834 in 1943. This heavy marketing of sows, however, is not necessarily an indication of the likely output of market hogs in 1945. There were 53,019 more sows marketed in 1943 than in 1942, yet our 1944 swine marketings were the largest in the history of the Province.

There is every indication that Canada will have as good a market for pork products in the United Kingdom for the years 1945 and 1946 as it had for the past two years. Quality of bacon after the war will be of greater importance than it is now, as there will be other countries competing for the sale of bacon to England. Therefore it is essential that farmers should make every effort to produce more hogs to qualify in the top grade. This can be done if breeding and feeding methods are properly combined.

The matter of introducing other than the recognized bacon breeds of swine by private individuals deserves careful consideration from the Dominion and the Provincial Departments of Agriculture.

On the whole, pure-bred swine breeders did not enjoy as good a market for their stock as they did in 1943.

Year	SOWS		BOARS		TOTAL	
	No. Head	Av. Price	No. Head	Av. Price	No. Head	Av. Price
1940	159	\$24.75	231	\$23.12	390	\$23.78
1941	177	34.45	217	37.52	394	36.90
1942	218	43.35	239	42.73	457	43.03
1943	271	43.33	283	45.94	354	44.67
1944	184	40.75	168	38.42	352	38.47

A summary table of Calgary and Edmonton Swine Sales follows:

Breed	1942		1943		1944	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Yorkshire Sows	75	\$ 39.87	72	\$ 36.97	63	\$ 39.92
Tamworth Sows	6	51.25	3	40.00	7	27.85
Yorkshire Boars	91	34.84	77	40.20	56	34.24
Tamworth Boars			3	49.17		
	172	\$ 37.60	155	\$ 38.87	126	\$34.00

CALGARY SWINE SALE						
Yorkshire Sows	124	\$ 45.34	188	\$ 45.47	103	\$ 44.56
Tamworth Sows	6	42.08	8	51.44	11	50.68
Yorkshire Boars	119	48.57	171	48.52	85	44.88
Tamworth Boars	20	45.25	30	45.33	24	32.06
Berkshire Boars			2	51.25	3	42.50
	269	\$ 46.70	399	\$ 46.92	226	\$ 42.94

SHEEP

Alberta sheep population in 1944 increased to 1,023,200 head as compared with 900,000 in 1943. Sheep and lamb marketings will exceed 1943 by approximately 70,000 head. There was a general lowering in the sheep and lamb market prices. The 1943 lamb prices ranged from \$9.25 to \$14.75, while the 1944 market price range was \$5.75 to \$11.60 per cwt. Ewes were down to \$2.00 per cwt.

There was a fairly large number of breeding ewes offered for sale, but due to drop in price of market lambs, not many ewes changed hands, and for the same reason very few ewes were marketed for slaughter. Consequently, an increase in sheep production is expected in 1945. The removal of the embargo on Canadian sheep entering the United States should strengthen this important industry.

The lower price for feed-lot lambs this spring reflected unfavourably on the numbers of lambs placed in feed lots and the price offered for feeder lambs by the feed lot operators. For the same reason, sale prices for pure-bred rams at the Calgary and Edmonton Fall Sheep Sales were considerably lower than in 1943. Summary of pure-bred sheep sales at Edmonton, Calgary and Lethbridge for the years 1942 to 1944 inclusive will bear out this fact:

AUCTION SALES OF PURE-BRED SHEEP

EDMONTON:

Breed	1942		1943		1944	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Suffolk Ewes	4	\$ 15.88	10	\$ 21.90	12	\$ 27.00
Oxford Ewes	14	15.23	28	11.18	17	11.88
Shropshire Ewes			5	11.40	16	11.13
Southdown Ewes	2	9.00	12	10.92		
Hampshire Ewes	4	16.50	20	13.35	9	16.82
Total	24	\$ 15.06	75	\$ 14.49	54	\$ 16.71
Suffolk Rams	73	\$ 28.87	49	\$ 43.38	111	\$ 25.18
Oxford Rams	50	33.70	46	25.18	26	19.52
Shropshire Rams	14	31.61	9	15.11	16	23.28
Southdown Rams	12	28.33	11	18.17	4	25.00
Hampshire Rams	33	41.51	75	34.26	85	24.71
Total	202	\$ 33.54	190	\$ 32.57	242	\$ 23.53
Grade Ewes			70	\$ 10.79	5	\$ 10.00

CALGARY:

Suffolk Ewes	17	\$ 44.06	141	\$ 25.11	166	\$ 19.25
Shropshire Ewes	18	13.86	25	14.56	3	12.00
Southdown Ewes	28	24.91	34	18.59	33	14.52
Hampshire Ewes	63	27.94	153	17.57	130	14.10
Total	126	\$ 27.43	353	\$ 20.47	362	\$ 14.96
Suffolk Rams	125	\$ 48.44	197	\$ 40.99	168	\$ 47.46
Shropshire Rams	17	36.62	12	29.00	7	19.43
Southdown Rams	43	26.34	30	19.15	31	17.92
Hampshire Rams	89	48.31	173	39.80	195	38.76
Rambouillet Rams	6	45.00	6	45.83	6	52.50
Corriedale Rams			13	37.85	1	21.00
Cotswold					2	15.50
Lincoln					9	20.88
Total	280	\$ 44.21	431	\$ 38.63	419	\$ 29.18

LETHBRIDGE:

Rambouillet Rams	43	\$ 31.02	50	\$ 23.79	46	\$ 17.43
N. Z. Corriedales	7	45.00	8	42.81	4	29.50
Can. Corriedales	44	28.98	45	37.64	29	21.21
Mature Rams	4	44.25	6	35.08	3	25.67
Total	98	\$ 31.34	109	\$ 31.53	82	\$ 19.66

Summary of the average prices received in the past four years at all Fall Sales in Alberta is as follows:

Year	EWES		RAMS		TOTAL	
	No. Head	Av. Price	No. Head	Av. Price	No. Head	Av. Price
1940	172	\$15.57	389	\$22.23	561	\$20.19
1941	189	18.13	569	29.83	758	26.91
1942	150	25.45	592	38.20	742	35.63
1943	428	19.42	730	36.00	1,158	29.87
1944	421	15.34	743	27.11	1,164	20.96

The marketings of commercial sheep and lambs in Alberta for years 1937 to 1944 inclusive are given hereunder:

COMMERCIAL MARKETINGS OF SHEEP AND LAMBS IN ALBERTA

Year	Stock Yards	Direct on Export		Total	Value
		Plants			
1937	62,324	157,189	46	219,559	\$1,185,619.00
1938	48,451	151,029	125	199,605	1,097,828.00
1939	68,653	154,801	337	223,791	1,353,936.00
1940	61,977	130,672	32	192,681	1,319,865.00
1941	74,290	138,738	804	213,032	1,657,198.00
1942	42,573	162,899	1,563	207,035	1,830,189.00
1943	57,386	152,626	642	210,654	1,805,304.00
1944	72,239	205,739	25,146	303,124	2,515,900.00

Attempts to further increase the numbers of small farm flocks have not met with any degree of success. The difficulty in obtaining satisfactory farm help, the expense of constructing suitable sheep fences, and the lower price trends for market sheep and lambs were the main reasons for lack of interest in sheep expansion.

ALBERTA SHEEP MARKETINGS AND CLASSIFICATIONS

	LAMBS				SHEEP				Grand Total Sheep and Lambs
	Good Handy Weight	Common all Weight	Bucks	Total	Good Heavy	Good Handy Weight	Common	Unclassi- fied	Direct on Export
1939—Number	168,935	23,013	1,025	199,588	1,828	12,539	4,284	5,215	337
1940—Number	84.7	11.5	.5	169,848	7.6	51.8	17.7	21.6	1.3
1941—Number	85.0	19,842	1,200	187,500	2,461	12,176	3,444	4,720	32
1942—Number	81.1	29,679	1,367	191,282	10.7	53.1	15.6	20.5	1
1943—Number	83.6	24,395	1,369	184,162	12.7	55.3	17.4	11.6	3.0
%	2.9	12.8	.7	13.7	12.6	36.5	20.5	2.123	9.9
%	6.505	22,033	1,536	13.7	3,622	15,273	4,832	2,123	642
%	83.7	12.0	.8	13.7	57.5	210,654	26,492	8.0	2.4

It is gratifying to note a large percentage of lambs in the top grades, also the exceedingly small percentage of buck lambs.

The Dominion and Provincial Departments of Agriculture again co-operated on equal share basis in the payment of a four cent per pound wool bonus on all standard grades of wool. In order to qualify for bonus, wool clips had to be properly prepared and packed at shearing time, and delivered to wool grading warehouses in good condition. All wool was graded under the supervision of the Dominion wool graders. Wool grading statements for all Alberta clips were forwarded to the Provincial Department of Agriculture at Edmonton. Bonus on recommended wool clips was paid direct to the producer.

The wool marketings and wool bonus payments for 1943 and 1944 are as follows:

1943 WOOL RECOMMENDED FOR BONUS

Total No. Clips	4,640
Total Poundage	3,223,421
Total Reject	120,470
Total Pounds for Bonus	3,102,951
Amount of Bonus Paid	\$124,118.04

1943 WOOL NOT RECOMMENDED FOR BONUS

No. Clips	795
Total Poundage	230,694

The above indicates that Alberta's wool clip in 1943 was 3,454,115 pounds, comprising 5,435 clips. Wool bonus was paid on 90% of wool, or on 85.5% of the wool clips submitted for payment.

1944 WOOL RECOMMENDED FOR BONUS

Total No. Clips	3,905
Total Poundage	2,951,198
Total Reject	824,438
Total Pounds for Bonus	2,126,760
Amount of Bonus Paid	\$ 85,070.40

1944 WOOL NOT RECOMMENDED FOR BONUS

No. Clips	1,286
Total Poundage	956,133

The above indicates that Alberta's wool clip in 1944 was comprised of 5,191 clips with a total of 3,907,331 pounds. Wool bonus was paid on 54.4% of wool marketed, or on 75.3% of wool clips submitted for payment.

HORSES

At six spring horse sales, 3,028 horses sold for a total of \$209,780, averaging \$69.28 per head. This average price was slightly higher than the previous year. It is interesting to note that the highest average price was obtained at the last sale held, regardless of the large number of horses sold previously in a comparatively short period of time. Well fitted, good quality horses of the types in demand by Eastern buyers sold quite readily. Too many unfitted horses of undesirable type are entered for sale, which undoubtedly affects prices on better horses.

Under the Co-operative Stallion Policy, 53 horse clubs were in operation, and in addition 46 clubs use a stallion now owned by the former groom. Interest in horse breeding has been well maintained in north and north central Alberta. When real good stallions are available, it is not uncommon to find that from 75 to 100 mares are bred each year.

A total of 20 colt shows were held during the season with an average of 22 colts exhibited. The average attendance at these shows was approximately 120 persons.

A marked decrease is evident in the breeding of horses under range and semi-range conditions which, coupled with a very substantial increase in numbers of horses exported, should ultimately result in attaining a desired level in horse production.

Export of horses for the period 1942-43-44 is as follows:

	1942	1943	1944
British Columbia	1,365	2,295	1,377
Saskatchewan	255	443	511
Manitoba	279	1,624	790
Ontario	645	1,409	1,416
Quebec	5,739	6,412	7,667
Nova Scotia	769	1,187	1,607
New Brunswick	693	718	550
U.S.A.	242	6,686	9,859
Newfoundland		80	123
Total	9,987	20,845	23,900

LIVE STOCK IMPROVEMENT POLICIES

Many farmers continue to obtain pure-bred sires under the Sire Improvement Policies. The contribution by the Department towards the applicant's purchase price of a bull under The Bull Exchange and Assistance Policy has been raised for 10% to 15%. It is apparent that an increased number of applications for bulls will be received. In the sixth consecutive year of operation of this policy, 152 bulls were placed with applicants. Under the Sheep and Swine Improvement Policies (Pure-bred Sires), 180 boars and 31 rams were placed with applicants during the year.

Live Stock Listing Bureau.

Applicants who are unable to comply with regulations pertaining to the aforementioned Live Stock Improvement Policies, obtain breeding stock under the Live Stock Listing Bureau.

The number of animals placed under this plan is briefly summarized as follows:

1942		1943		1944	
Cattle	Bulls 25, Females 15	Bulls 51, Females 12		Bulls 51, Females 39	
Swine	Boars 10, Sows 24	Boars 50, Sows 31		Boars 15, Gilts 9	
Sheep	Rams 14, Ewes 11	Rams 9, Ewes 4		Rams 3	

THE DAIRY HEIFER CALF POLICY

Members of five Dairy Calf clubs received a total of 109 grade Holstein heifer calves. The co-operation of dairymen in the Edmonton milk-shed, from whom these calves are purchased, is highly appreciated by all parties concerned in this work. Considering the interest shown by the young exhibitors and adults at the Dairy Calf Club Achievement Day, also the satisfactory condition in which exhibits are shown, the value and importance of this activity is clearly indicated.

DOMINION-PROVINCIAL SOW DISTRIBUTION POLICY

Another successful year has been held in which 25 Swine Improvement Associations were organized with approximately 500 sows purchased. Two of the 25 associations were located at Mellowdale and Neerlandia respectively, which together purchased 90 gilts of advanced registry breeding.

The Dominion Department of Agriculture has provided a pure-bred boar for each association organized, and to a large extent has been responsible for the selection of sows purchased. In addition, 13 boars were placed on loan to Junior Swine clubs. Transportation costs on the movement of gilts obtained under this policy

are shared equally by the Dominion and Provincial Departments of Agriculture. Members of this Branch have, at all times, enjoyed the closest co-operation with members of the Dominion Production Service in the administration of this policy.

Advanced Registry Testing Station.

During the past year, 107 litters were on test at the Advanced Registry Station, North Edmonton. Here four litter mates from many of the best herds in the Province are fed balanced rations, and upon reaching market weights are killed and the carcasses carefully graded. The score received by each litter enables the breeder to note both the desirable and undesirable qualities of the breeding stock he is producing. As Advanced Registry Stations are located at various places across Canada, and as pigs are tested under similar conditions, a Dominion-wide comparison in the quality of breeding stock is possible. During the year a litter from the Provincial School of Agriculture, Vermilion, scored exceptionally high, attaining 84, 86, 88 and 89% respectively. Transportation costs to the testing station are paid by the Provincial Department of Agriculture.

LIVE STOCK FEEDERS' ASSOCIATIONS

Sixteen Feeders' Associations which obtained loans under The Feeders' Association Guarantee Act were in operation during the year. The majority of feeders operated on a very narrow margin, and subsequently profits were not as satisfactory as in previous years. Over enthusiastic feeders soon found they had paid too high a price for their feeder live stock. This factor, in conjunction with high prevailing prices for feed grains and the much improved financial status of farmers, has caused a reduction in the amount of loans for the current feeding season.

VOLUME OF OPERATIONS OF ALBERTA FEEDERS' ASSOCIATIONS DURING THE FEEDING SEASON OF 1943-1944

Association and Address	Cost of Animals	Cattle	Sheep	Total Membership	No. Members Feeding
Battle River Feeders' Ass'n, Camrose	\$ 50,849.19	759	.	48	26
Bow Valley Livestock Feeders' Ass'n, Brooks	97,598.02	497	9,098	121	34
Cardston Livestock Feeders' Ass'n, Cardston	69,445.77	968	710	27	21
Carstairs Livestock Feeders' Ass'n, Carstairs	45,571.60	610		27	18
Central Alberta Livestock Feeders' Ass'n, Lacombe	72,115.34	755	592	61	25
Edmonton and District Livestock Feeders' Ass'n, Edmonton	47,100.36	654	..	134	20
Lethbridge Livestock Feeders' Ass'n, Lethbridge	106,208.92	843	6,950	45	30
Olds Livestock Feeders' Ass'n, Olds	99,417.90	1,520	213	76	30
Raymond-Magrath Livestock Feeders' Ass'n, Magrath	97,793.64	435	9,201	41	31
Red Label Livestock Feeders' Ass'n, Raymond	73,711.28	911	2,175	45	18
South Slope Livestock Feeders' Ass'n, Brooks	35,137.29	141	3,895	53	19
Taber Livestock Feeders' Ass'n, Taber	66,814.79	751	1,223	69	12
U.I.D. Stock Feeders' Ass'n, Glenwood	86,091.40	92	10,507	65	21
Vauxhall-Albion Ridge Feeders' Ass'n, Vauxhall	97,190.40	439	9,204	53	30
Vermilion and District Feeders' Ass'n, Vermilion	98,749.12	1,493	..	144	35
Wainwright-Edgerton-Chauvin Feeders' Ass'n, Edgerton	47,846.48	771	.	131	25
	<u>\$1,191,641.50</u>	<u>11,639</u>	<u>53,768</u>	<u>1,140</u>	<u>395</u>

Considering that well over \$1,000,000 has been utilized in the purchasing of feeder live stock during some feeding seasons, it is most gratifying to note that it has not yet been found necessary to exercise the Government guarantee in respect to non-payment of loans since the inauguration of The Feeders' Association Guarantee Act.

THE STOCK INSPECTION ACT AND THE BRAND ACT

Owing to the exceptional increase in movement of cattle through various marketing channels, the Stock Inspection staff experienced extreme difficulty at times in coping with the situation, and it was found necessary to increase the number of stock inspectors.

Prevailing values of live stock have maintained the interest of owners in renewal of brands and obtaining brands. During the year there were 2,434 new brands recorded to their respective owners, consisting of 1,977 cattle, 440 horses, 10 sheep, 4 poultry, and 3 fox. There were 243 transfers registered. Strays, searches and certified extracts numbered 355, cancellations numbered 100, renewals numbered 3,097 (2,047 cattle, 1,046 horses, and 4 fox), and butchers' and hide dealers' licenses numbered 509, making a total of 6,738 transactions.

Compared with 1943, these figures show a decrease of 223 cattle, 165 horses, and 3 poultry, and an increase of 2 fox.

The approximate number of brands now in good standing in our registers are as follows:

Cattle brands	18,798
Horse brands	8,878
Poultry brands	27
Sheep brands	32
Fox brands	65
	27,800

THE DOMESTIC ANIMALS (UNORGANIZED TERRITORY) ACT

Scarcity of feed supplies in certain areas accelerated the interest of farmers in the establishing and maintaining of pound districts. Much work is entailed in the administration of this Act. The formation of enlarged municipal districts withdrew from the jurisdiction of the Department of Agriculture a number of pound districts.

RESTRICTED AREA PLAN

The eradication of bovine tuberculosis continues to receive considerable attention. Petitions are being circulated in the Municipal Districts of Leduc No. 489 and Beaver No. 480 for tuberculosis test. The Municipal District of Lamont No. 516 is partially tested. When enlarging the Municipality of Camrose No. 427, there were seven townships included which were not signed up for the tuberculosis test. However, petitions are now being circulated, and as soon as completed it is expected a start in testing will be made.

On the basis of the former municipal districts, the areas now tested are as follows:

Municipal District:	
Clover Bar No. 517	Melrose No. 426
Dublin No. 366	Michichi No. 277
Evergreen No. 427	Starland No. 307
Haig No. 396	Strathcona No. 518
Lakeside No. 397	Success No. 336
Lambton No. 306	Vimy No. 337
Leslie No. 547	Waverly No. 367
Lloyd George No. 457	

REPORT OF THE SUPERVISOR OF LIVE STOCK BREEDING ASSOCIATIONS

(W. H. T. MEAD)

Artificial insemination work was started early in 1944, and was carried on from the office and breeding centre located at the School of Agriculture farm at Olds.

Four Holstein-Friesian and two Shorthorn bulls have been used in this programme to date. Two Holstein bulls have been used on registered cows only, and under this plan shipments of semen have been made to pure-bred breeders for individual cows.

Two Holstein bulls and two Shorthorn bulls have been used in a breeding club organized in the area between Carstairs and Innisfail, with headquarters at Olds, and their service has been largely to grade cows in farm herds. These two programmes will be dealt with separately in this report.

The breeding club is the most practical way to apply artificial insemination to general livestock improvement, therefore we will deal with that phase of the work first.

The breeding club at Olds is known as the Olds Live Stock Breeding Club Limited. This is a co-operative organization, organized under The Co-operative Associations Act of Alberta. Artificial breeding was started in this club on February 1st, 1944. At the outset, one Holstein and one Shorthorn bull were in service. It was soon learned that it was not possible to carry on in a club with less than two bulls of each breed being served. As soon as suitable bulls were available, one more Holstein bull and one more Shorthorn bull were purchased, and have been in service since that time.

Following is a summary of the work done and the results obtained in this breeding club from February 1st to November 30th.

A total of 779 cows were inseminated, 564 to Holstein service and 215 to Shorthorn service. Of the cows bred to Holstein bulls, 50% conceived with the first service, and 48.37% of the cows bred to Shorthorn bulls conceived with the first service. Of the total number of cows served it required 2.04 services per cow settled. As the continued operation and well being of any artificial breeding club depends so much on the conception rate achieved, the above figures are worthy of special mention. Contrary to advice from breeding clubs in other parts of Canada and the United States, the conception rate by months or seasons has not followed any definite trend. The greatest variation in the Olds Club has been from one herd to another. Some herds have required as high as three services per cow settled and some have been as low as one service per cow, with a number around 1.25 services per cow settled.

In a few instances poor breeding results can be attributed to disease or abnormal condition in the cows. In a great many more instances poor breeding results seem to result from some form of malnutrition. This latter factor is the most difficult to deal with because of the difficulty of making a proper diagnosis of conditions, and also because of the fact that each farmer's feed supply may vary in quality from year to year. In some cases where poor results have been obtained, there has been a definite mineral deficiency, but this is not true in all cases. It is our opinion that the water supply on some farms and the soil conditions may have an im-

portant bearing on the breeding efficiency of the live stock on those farms.

Some of the difficulties encountered, apart from unsatisfactory breeding results in some herds, have been due to wartime restrictions and shortages. These have retarded the acquisition of certain necessary supplies, but particularly affected automobile transportation, which is absolutely essential in the operation of any artificial breeding club.

Breeding operations were started with 80 farmer members, and by December 31, 1944, the membership had risen to 180. However, not more than one-half the number of cows signed up by members had been actually inseminated.

So far as shipments of semen to individual cows owned by pure-bred breeders is concerned, this service has been supplied to Holstein-Friesian breeders only, and has been from two bulls, as previously stated. The first shipments were made in January, 1944, and to the end of December, 1944, 108 registered females had been bred in 19 different herds located at the following points: Claresholm, Strathmore, Calgary, Didsbury, Olds, Red Deer, Edmonton, Winterburn, Clover Bar, Tofield, St. Albert, and Elk Point.

This programme requires giving instruction to, and arranging for the approval of technicians under the regulations set out by the breed association. At the end of 1944 there were 14 approved technicians in Alberta who had either taken part in this programme or who were approved in order to do this work in the near future.

Contrary to what we had assumed, the conception rate on the cows bred in this manner has been higher than cows bred in the Olds Breeding Club. The number of services per cow settled on the 108 cows bred is approximately 1.5. It would appear that this may result from two factors; one being that the two bulls used on these herds are both particularly fertile. The other factor may be that these herds are maintained under better management than the average of farm herds, and are therefore in better condition.

Observations taken of the work done in Alberta substantiate some conclusions drawn from the work in other areas, and bring forth limitations that may not be so great in other areas.

Some of the more important factors that will govern the expansion of this work are:

1. The conception rate must be high.
2. Great distances with inadequate transportation facilities is a decided limiting factor in Alberta.
3. Artificial insemination is much more practical in dairy herds than in beef herds.
4. Cattle numbers in a given area must be high.
5. The more breeds there are in any area the higher the cost.
6. Costs are closely related to and largely governed by the above points. Under Alberta conditions costs must be kept low in order to induce small farmers to participate.
7. The stability of an agricultural enterprise in given areas.
8. The farmer's appreciation of artificial breeding as a means of live stock improvement rather than as a convenience.
9. Post-war prices for meat and dairy products.
10. Artificial insemination can only be justified as a long term programme, and its future will for that reason be governed to some extent by points 7, 8 and 9.

REPORT OF THE DAIRY COMMISSIONER (D. H. McCALLUM)

GENERAL REVIEW

The year 1944 proved to be outstanding for the dairying industry of Alberta. New all-time records in the production of milk and total value of dairy products were attained.

The total quantity of milk produced amounted to 1,806,863,000 pounds, representing an increase of .95% over the 1943 production.

There was some change in the utilization of milk as compared to 1943. Larger quantities were used for fluid consumption and feed for live stock, as well as certain factory products, such as cheddar cheese, ice cream and concentrated milk products. Less milk was used in the manufacture of creamery butter, farm dairy butter, and farm cheese. Manufactured dairy products utilized 65.7% of the total milk supply, while 34.3% was consumed or fed in the fresh fluid form. The corresponding figures for 1943 were 66.8% and 33.2%, respectively.

Increased prices, in addition to increased production, were responsible for raising the total value for all dairy products to \$35,330,189 from the previous high of \$34,428,814. In addition to this high value of dairy products, producers received Federal Government subsidies amounting to \$3,930,000 which do not in any way enter into the value of the finished product. The value of milk and cream sold off Alberta farms increased from \$21,372,991 in 1943 to \$22,809,892 during 1944, and this total also represents a new all-time high for farm sales.

In view of the shortage of farm labour, this achievement is most remarkable, and producers are to be congratulated for their efforts.

Creamery butter production amounted to 37,786,336 pounds, a decrease of 2.3% under 1943. This decrease was due to a diversion of milk from creamery butter to fluid sales and the manufacture of cheese and concentrated milk products. Factory cheese production amounted to 3,711,932 pounds, an increase of 44.8% over the 1943 production, and a slight decrease of 5.0% under the all-time high produced in 1942.

While weather conditions favoured milk production in the major portions of the Province, there were large areas in the south-eastern and east-central parts of the Province which did not receive normal rainfall, thus affecting pastures and milk flow. Fine weather during the fall allowed grain crops to be harvested with a minimum of damage. Some damage to hay crops was reported in the north and western part of the Province due to abnormal rainfall. Most districts have sufficient feed for the winter of 1944 and 1945, and the only factors likely to retard production are labour shortages and higher relative prices for grain.

SUBSIDIES IN EFFECT DURING 1944

Butterfat for the manufacture of creamery butter received a subsidy of 10c per pound throughout the year.

Milk for the manufacture of cheddar cheese received a subsidy of 30c per 100 pounds from January to April and 20c per 100 pounds from May to December inclusive.

Milk for concentrating purposes received a subsidy of 30c per 100 pounds from January to April and from October to December inclusive, but was reduced to 15c per 100 pounds from May to September.

Milk for fluid consumption was subsidized 55c per 100 pounds in certain areas approved by the Provincial Milk Control authorities, for the period January to April and from October to December. The same areas received 35c per 100 pounds from May to September. These areas were the milk sheds serving the principal cities of the Province. Other areas, as approved by the Provincial Milk Control authorities, received a subsidy of 25c per 100 pounds throughout the year.

The estimated amounts paid under these various subsidies were as follows:

Butterfat for the manufacture of creamery butter	\$3,181,063
Milk for the manufacture of cheddar cheese	89,907
Milk for concentrating purposes	57,545
Milk for fluid consumption	601,485
Total subsidy paid to Alberta producers	\$3,930,000

PRODUCTION AND VALUES OF DAIRY PRODUCTS, 1944

(Preliminary)

Product	Quantity	Milk Equivalent lbs.	% of Tot. Milk	Average Unit Price	Tot. Value
Creamery Butter (lbs.)	37,786,336	884,578,000	49.0	\$.3225	\$12,186,093
Farm Dairy Butter (lbs.)	9,059,000	212,071,000	11.7	.3500	3,170,650
Cheddar Cheese (lbs.)	3,711,932	41,574,000	2.3	.2250	835,185
Farm Dairy Cheese (lbs.)	227,800	2,551,000	.1	.2050	46,699
Ice Cream† (gals.)	1,177,538	18,499,000	1.0	1.2000*	1,296,950
Misc. Factory Products		29,088,000	1.6		1,209,495
Milk and Cream Consumed		467,644,000	25.9	2.4221	11,326,766
Milk Fed Farm Animals		150,858,000	8.4	1.7600	2,655,101
Skimmilk & Buttermilk (lbs.)	1,041,300,000			.2500	2,603,250
Totals		1,806,863,000	100.0		\$35,330,189

†Mix converted to Ice Cream on basis of 90% overrun.

*Average price of Ice Cream and mix per gallon at factory.

PRODUCTION AND VALUES OF DAIRY PRODUCTS, 1943

Product	Quantity	Milk Equivalent lbs.	% of Tot. Milk	Average Unit Price	Tot. Value
Creamery Butter (lbs.)	38,656,940	904,959,000	50.6	\$.3219	\$12,443,669
Farm Dairy Butter (lbs.)	9,317,000	218,111,000	12.2	.3310	3,083,927
Cheddar Cheese (lbs.)	2,563,257	28,708,500	1.6	.2310	592,112
Farm Dairy Cheese (lbs.)	229,700	2,572,500	.1	.2110	48,467
Ice Cream† (gals.)	1,150,684	18,077,000	1.0	1.1995*	1,261,057
Misc. Factory Products		22,640,000	1.3		1,086,373
Milk and Cream Consumed		450,596,000	25.2	2.410	10,861,223
Milk Fed Farm Animals		143,674,000	8.0	1.6600	2,384,988
Skimmilk & Buttermilk (lbs.)	1,066,799,250			.2500	2,666,998
Totals		1,789,338,000	100.0		\$34,428,814

†Mix converted to Ice Cream on basis of 90% overrun.

*Average price of Ice Cream and mix per gallon at factory.

ESTIMATED VALUE OF DAIRY PRODUCTS SOLD OFF FARMS, 1944

	Quantity, lbs.	Price	Value
Butterfat for Manufacturing Purposes	32,151,780	\$.43 per lb.	\$13,839,426
Farm Dairy Butter Sold	2,265,000	.35 per lb.	792,750
Milk for Cheesemaking and Concentrating	67,543,840	2.00 100 lbs.	1,351,903
Milk and Cream Sold for Fluid Consumption	265,543,000	2.57 per lb.	6,825,813
Total			\$22,809,892

(Dominion Government Subsidies included only in value of products sold off farms.)

DAIRY CATTLE

The total number of cows and heifers over two years of age kept for milk purposes was 385,500, according to the June estimate by the Dominion Bureau of Statistics. This represents an increase of 9,500 head, or 2.5% over the 1943 totals.

Based upon this number of milk cows and the total milk produced, the average production per cow amounted to 4,687 pounds of milk and 168.7 pounds of butterfat, when assuming an average butterfat test of 3.6%.

The corresponding figures for 1943 were 4,759 and 171.3 pounds, respectively.

CREAMERIES

While 93 creameries operated for part of 1944, there were only 90 in operation during the latter part of the year. The creamery at New Norway was closed during July; the Northern Alberta Dairy Pool closed one plant in Wetaskiwin early in February, and the Central Alberta Dairy Pool at Delburne discontinued the manufacture of butter in September. Fire destroyed the creameries at Vilna and Olds during the year, but in both cases new modern plants were again put into operation.

The average output per plant amounted to 406,305 pounds, as compared to 415,666 pounds for 1943.

CHANGES IN OWNERSHIP OF DAIRY PLANTS

The Northern Alberta Dairy Pool during the year purchased from Burns & Co., Ltd., all creameries and cheese factories in Northern Alberta, which comprised the following plants: Creameries at Edmonton, Wetaskiwin, Camrose, Daysland, Hay Lakes, Holden, Vegreville, Mannville, Vermilion, Radway, St. Paul, Westlock, and Onoway; combined factories at Leduc and Millet, and the cheese factories at Bawlf, Bruderheim and Round Hill. The Northern Alberta Dairy Pool also purchased, from D. C. Fender, the Bonnyville Creamery at Bonnyville.

The Central Alberta Dairy Pool purchased from Burns & Co., Ltd., the creamery at New Norway; the Olds Creamery from A. A. Dunkley of Olds; the Eckville Creamery from Central Creameries, Ltd., and the Edberg Co-operative Creamery, during the year.

H. B. Hay and J. Zazulak purchased the Peace River Creamery early in the season from J. Jensen of Peace River.

The creamery at Bowden, owned by the Central Creameries, Ltd., was rebuilt during the year, and a change in operators was reported, from the Central Alberta Dairy Pool to the Independent Creameries, Ltd.

The Smith produce Co. of Edmonton purchased the creamery at Athabasca from B. Wainberg & Co., early in the year.

CHEESE FACTORIES

The same number of cheese factories operated during 1944 as was the case in 1943. The Killam District Co-operative Cheese Factory did not operate in 1944, but the Central Alberta Dairy Pool at Delburne changed their operations from butter to cheese manufacture.

The average output of cheese per factory amounted to 206,218 pounds, the highest on record, and 63,813 pounds greater than in 1943.

Cheese factories again supplied large quantities of milk to the fluid milk markets of Edmonton, Calgary and Lethbridge.

Subsidies applied to milk for the manufacture of cheese throughout the year, and were partly responsible for the production increasing to 3,711,932 pounds from 2,563,257 pounds the previous year. This represents an increase of 44.8%.

CONCENTRATED MILK PLANTS

One condensery operated by the Central Alberta Dairy Pool at Red Deer manufactured evaporated milk during the year, while ten other plants dried skim and buttermilk. The Northern Alberta Dairy Pool at Sedgewick and the Swift Canadian Co., Ltd., Edmonton, were plants which installed driers during 1944. The drier at Swift's was not put into operation by the end of the year.

CREAM QUALITY

The following table sets forth the quantity and percentage of butterfat in each grade received at Alberta creameries during 1944. For sake of comparison the corresponding figures for 1941 and 1943 are included:

	1944		1943		1941	
	Pounds (Estimated)	%	Pounds	%	Pounds	%
Cream Received	90,928,679		93,075,363		87,163,649	
Average Test		(35.4)		(35.2)		(34.6)
Butterfat:						
Table Grade	341,148	(1.1)	432,119	(1.3)	778,288	(2.6)
Special Grade	16,577,352	(51.5)	19,130,688	(58.3)	20,093,810	(66.6)
First Grade	13,557,311	(42.2)	11,660,193	(35.6)	8,369,065	(27.8)
Second Grade	1,605,679	(5.0)	1,434,666	(4.4)	749,951	(2.5)
Off Grade	70,290	(.2)	123,660	(.4)	143,639	(.5)
	32,151,780	(100.0)	32,781,326	(100.0)	30,134,753	(100.0)

Cream quality showed a further drop during the past year. Comparing the percentage of special grade cream in 1944 with that of 1941, it will be noted there has been a drop of 15.1% during this three-year period. Labour shortages undoubtedly played a big part in this decline in cream quality. It is to be hoped that producers will direct more attention to this important item, otherwise if cream quality is allowed to deteriorate, it will have a detrimental effect on butter quality.

BUTTER AND CHEESE QUALITY FEDERAL REPORT OF CREAMERY BUTTER GRADED

Year	Total Pounds Graded	% of make Graded	Percentage in Each Grade			
			First	Second	Third	Below Third
1938	27,839,952	(89.1)	85.7	7.9	5.4	1.0
1939	27,219,976	(91.5)	86.9	7.0	5.4	.7
1940	27,243,216	(91.4)	88.1	7.1	4.4	.4
1941	32,037,992	(90.7)	88.4	6.9	4.1	.6
1942	33,614,392	(90.9)	84.1	10.2	5.0	.7
1943	35,490,784	(91.8)	84.9	9.2	5.5	.4
1944	35,142,016	(93.0)	86.1	7.8	5.7	.4

It is gratifying to report an increase of 1.2% in first grade butter, as well as an increase of 4.6% in butter qualifying for 93 score or top commercial quality. This improvement in butter quality in spite of a decline in cream quality is a noteworthy achievement, and congratulations are proffered to the cream graders and butter-makers for their diligence and skill.

FEDERAL REPORT OF ALBERTA CHEESE GRADED

Year	Total Pounds Graded	% of make Graded	Percentage of Each Grade			
			First	Second	Third	Below Third
1940	1,935,750	(71.5)	70.6	28.4	.9	.1
1941	2,498,988	(79.6)	78.6	21.0	.2	.2
1942	3,785,718	(96.8)	81.0	18.7	.2	.1
1943	2,353,872	(91.8)	80.7	19.0	.2	.1
1944	3,350,631	(90.2)	79.0	20.4	.4	.2

While the quality of cheese has not reached quite the high levels of butter quality in Alberta, there has been a noticeable improvement in recent years, as indicated by the above table. One point of interest is the increase in the quantity of cheese submitted for grading since 1940. By having most of the cheese graded, it enables the cheese instructors to conduct a quality improvement programme impossible without such information.

SERVICES OF THE DAIRY BRANCH

Inspection and Instructional Work.

In the course of their duties, inspectors of the Dairy Branch made 1,870 visits to dairy factories and milk distributing plants during the year. There were 86,936 shipments of cream checked for grade, and 33,323 samples of milk and cream check tested for butterfat content during these inspections.

Instruction to factory workers on improved manufacturing methods, composition control, and sanitation was freely given by inspectors at all times.

Two short courses for creamery workers were conducted jointly by the Department of Dairying, University of Alberta, and the Dairy Branch, Department of Agriculture. One course for experienced students covered a period of four weeks. Students without previous experience in a dairy plant were given nine weeks of training, four of which were spent in Edmonton plants securing practical experience under the direction of plant managers and dairy officials of the above departments. Without the splendid co-operation of the Edmonton operators, this second course would not have been possible. This special course provided the industry with additional trained help so necessary during the year. Students attending these courses received a subsistence allowance and transportation through the Dominion-Provincial War Emergency Training Programme. Similar arrangements for one four weeks' course have been completed for 1945.

The usual extension work, consisting of educational meetings for buttermakers, cheesemakers and producers, as well as radio addresses and the preparation of leaflets, was again conducted by members of the staff.

Cow Testing and Herd Recording.

The cow testing service for grade and pure-bred herds was again conducted by the Dairy Branch. This service is designed to assist the herd owner in determining the high and low producing individuals of his herd. Information thus gained should form the basis of a breeding, feeding, and weeding programme for every herd under test.

The following tabulation records the number of herds and cows under test, and the average milk and butterfat production for all cows completing a lactation period or an eight months' recording during the cow testing year ending October 31st, 1944. For sake

of comparison, corresponding figures for the previous three years have been included:

	1944	1943	1942	1941
Number of herds under test	128	128	180	187
Number of cows under test	1,411	1,600	2,052	1,974
Number of cows completing a lactation or showing an eight months' recording	933	1,094	1,272	922
Average production of milk, pounds	8,045	8,096	7,845	7,478
Average production of butterfat, pounds	303.0	305.4	295.6	284.8
Average test	3.77	3.77	3.77	3.81

It is disappointing to note the decrease in the number of herds and cows under test during 1944. Labour shortages on the farms and lack of a fieldman have, no doubt, been largely responsible for the lack of interest in this service. In spite of the decrease in numbers, it is encouraging to report that the average production of milk and butterfat has been well maintained.

The value of this service in improving the quality of dairy stock is illustrated by the fact that these cows averaged 3,358 pounds of milk and 134.3 pounds of butterfat more than the average of all cows kept for milk purposes on Alberta farms.

District Agriculturists visited herds in their respective districts to check the weighing and sampling of all herds, and offer assistance in herd management problems.

In spite of the fact that fewer graded certificates were issued than in previous years, a larger number of cows qualified for Gold Seal certificates, which is most encouraging.

The following table lists the number of certificates of each classification for the past three years:

	1944	1943	1942
Gold Seal	76	54	52
Red Seal	254	278	251
Blue Seal	347	428	489
Statements	109	200	236
Totals	786	960	1,028

Recognition of the high producing herds on the service is made by listing the owners with an average greater than 300 pounds of butterfat for a herd of five cows or more:

HONOUR ROLL, 1944

Name	Address	No. of Cows	Ave. lbs. Butterfat
Alexander, W. H.	Picture Butte	7	377.0
Allan, James	Hughenden	17	330.0
Baerg, Jacob L.	Swalwell	9	315.2
Bailey, Ward L.	Wetaskiwin	8	377.5
Bajema, A. J.	Blackfalds	5	358.5
Bajema, J. A.	Blackfalds	8	311.9
Bakker, P.	Stony Plain	31	359.7
Bice, H. V.	Condor	6	305.3
Carlyle, S. G.	North Edmonton	8	371.6
Charlton, F. A.	Bowden	6	375.0
Christensen, C. E.	Edmonton	18	320.4
Clarke, E. S.	Didsbury	11	301.3
Cromie, D. J.	Picardville	6	319.7
Daly, Arnold S.	Clover Bar	18	324.9
de Veer, John	Swalwell	13	310.0
Dowdell, A. E.	Millet	9	441.9
Echlin, Leslie	Olds	8	343.0
Erb, M. S.	South Edmonton	6	333.2
Erickson, John	Bentley	12	432.0
Flach, C. J.	Opal	6	332.3
Gould, S. P.	Rosalind	8	385.9
Haines, John	Millet	6	377.6
Irwin, Robert S.	Brant	9	369.0
Jensen, C. T.	Lacombe	9	341.0
Jean, Hector	Lafond	5	357.4
Jones, D. C.	Leduc	10	508.6
Leeson, F. W.	Didsbury	8	316.3
Mast, John	Vegreville	7	305.4
McGahan, Lloyd	Bremner	9	340.9
Nelson, Martin	Millet	14	406.2

HONOR ROLL, 1944—Continued

Name	Address	No. of Cows	Ave. lbs. Butterfat
Nicholson, Hal	Manola	6	335.0
Nielsen, J. C.	Dickson	14	308.0
Regehr, A. L.	Swalwell	17	326.7
Sisters of Charity	St. Albert	31	316.5
Smith, W. M.	Didsbury	8	310.6
Stannard, G. H.	South Edmonton	24	369.6
Stannard Bros.	South Edmonton	34	396.0
Stelfox, A. E.	Daysland	6	390.4
Stevens, J. R.	Didsbury	14	399.6
Thesberg, Niels	Markerville	8	348.5
Webb, Claude	Swalwell	20	325.9

Dairy Branch Laboratory.

The Dairy Branch Laboratory has had a very active year, receiving a total of 3,948 samples for examination, or 626 samples more than were submitted during 1943.

The distribution of these samples was as follows:

Butter, including Convention Samples, for Mould and Yeast Analysis	3,395
Water Samples	85
Creamery Surveys	20
Milk and Cream Samples	266
Miscellaneous	182
Total	3,948

During the year a change in policy was instituted, in that from April 1st the Provincial Government rendered a free service to all creameries on butter samples analyzed for moulds and yeasts. Previous to that date, it had been a voluntary service, with only those factories requesting and paying for the analyses participating.

Unfortunately, many of the factories not having previous samples analyzed did not have a high standard of sanitation, as measured by the mould and yeast count, consequently there was an increase in the average count, and a decrease of nearly 6% in the number of samples qualifying as "Excellent," as indicated in the following tables:

Year	No. of Samples Analyzed	Excellent (0-10) %	Good (11-50) %	Fair (51-100) %	Poor (over 100) %
1925	686	3.6	12.7	12.1	71.6
1930	2,799	35.7	20.3	10.3	33.7
1935	2,177	55.4	17.9	7.7	19.0
1940	3,013	64.6	16.0	7.2	12.2
1941	3,161	63.9	17.1	7.4	11.6
1942	2,975	65.1	16.1	5.5	13.3
1943	3,056	69.2	15.1	4.6	11.1
1944	3,364	63.4	16.2	6.0	14.4

Special attention, in the form of bacteriological surveys, was given to those creameries having difficulties in securing a satisfactory low mould and yeast count on their butter.

With the wash water practically the only raw product entering into the manufacture of butter, the purity of a creamery water is of paramount importance in producing a product of superior keeping quality; accordingly much time and effort has been given to the safeguarding of the water supply at the creamery.

The demand for assistance from milk plants has been particularly heavy, with 266 samples received, as compared to 73 for 1943.

The cheese starter service inaugurated some years ago, whereby the cheese factory is supplied with pure, active starter twice monthly, was continued. The same is true with regard to the preparation and distribution of indicators, testing solutions, chlorine stock solutions, and other chemicals and solutions required by the dairy industry.

The testing of milk samples for herds on the "Mailing System" of the Cow Testing Service was also conducted at the laboratory.

Dairy Cost Study.

The joint study, conducted by the Dominion and Provincial Departments of Agriculture, the Board of Utility Commissioners and the University of Alberta, which was commenced in 1939, was continued in 1944.

From the outset, the participation of the Dominion Department of Agriculture in the survey was recognized to be limited in duration, and during the year Mr. H. L. Patterson of the Economics Division, Marketing Services, was transferred to Manitoba. The analysis of the farm accounts continues at the University, and assistance in supervision is being given by members of the Economics Division staff located there. Responsibility for providing staff for the field and clerical work now rests on the Provincial Department of Agriculture and the Board of Public Utility Commissioners.

Concurrently with this change in organization, a report is being prepared covering the four complete farm account years from 1939. This report will include the results of the 1942-43 account year.

During 1944, the following accounts were closed:

Lethbridge, whole milk	6	Churning Cream	15
Calgary, whole milk	33	Inspected Cream	10
Edmonton, whole milk	19		
Red Deer, Condensery	19	Total	102

The following table includes the 1942-43 summaries, and it will be noted that this is the first year that records of farms supplying milk to the condensery are reported. For sake of comparison, the 1941-42 summaries have been included.

1942-43 SUMMARIES

Area	Number of Farms	Average Labour Earnings \$	Average Cost per lb. Cents	Average Price Received per lb. Butterfat Cents	Average Butterfat Produced per Cow lb.
Farms selling wholemilk:					
Edmonton area	15	2,275	68	75	301
Calgary area	31	2,671	64	72	249
Lethbridge area	7	4,692	57	76	285
Farms selling inspected cream:					
Edmonton area	12	1,804	62	47	223
Calgary area	6	525	59	44	241
Farms selling churning cream:					
Edmonton to Calgary	30	1,307	54	40	223
Farms selling condensery milk:					
Red Deer area	49	755	64	51	237

1941-42 SUMMARIES

Farm selling wholemilk:					
Edmonton area	42	1,165	59.1	63.0	296
Calgary area	35	2,408	50.0	63.7	264
Lethbridge area	8	1,427	58.6	59.8	270
Farms selling inspected cream:					
Edmonton area	43	1,194	42.6	42.2	244
Calgary area	12	1,123	51.0	41.4	265
Farms selling churning cream:					
Edmonton to Wetaskiwin area	72	895	37.2	31.6	215
Farms selling cheese milk:					
Edmonton area	20	653	40.1	37.3	212
Rosemary and Coaldale area	51	1,078	33.8	44.6	224

The average price received per pound of butterfat was higher in 1942-43 than in 1941-42 for all groups of farms. The increase was most marked in the Lethbridge wholemilk group, where the average price, including subsidies, was 16 cents higher than in the previous year. This increase in price, along with favourable production conditions, resulted in substantially higher labour earnings per farm.

The following table indicates the relation of production per cow to other factors affecting income for 1942-43:

Butterfat produced per cow, lbs.	No. of Farms	Average Labour Earnings \$	Hours of Chores per lb. of Butterfat hrs.	Average Crop Index %
All Whole Milk Farms:				
Less than 270	24	2,449	.73	109
270 or more	29	2,990	.59	118
All Cream Farms:				
Less than 210	23	1,102	1.44	99
210 or more	25	1,658	1.03	112
All Condensery Farms:				
Less than 230	23	372	1.30	92
230 or more	26	1,093	.89	100

There appears to be a clear-cut relationship between production and hours of chores per pound of butterfat. In all three groups of farms, the time spent on chores is reduced when the production per cow increases.

Labour earnings are higher for the farms in the class of higher butterfat production. These farms also show higher average crop index. Higher labour earnings are the result of both higher production per cow and higher crop yields.

Owing to the reduced staff, following the withdrawal of the Economics Division from participation in the field work, a smaller number of farm accounts were opened in June, 1944. The numbers of active accounts at this date are:

Calgary whole milk	26
Edmonton whole milk	19
Red Deer—Condensery	19
Churning Cream	16
Total	80

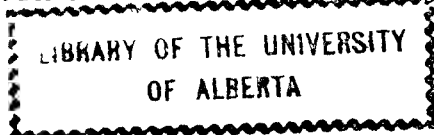
Butter Weighing.

The check weighing of butter and the issuing of weight certificates on creamery butter was again conducted by the Dairy Branch. There were 11,328 boxes weighed, representing 94,773 fifty-six pound boxes covered by weight certificates, as compared to 10,626 boxes weighed which represented a total of 87,399 boxes covered by weight certificates the previous year.

Frozen Food Locker Plants.

During the year the Dairy Branch has been responsible for the administration of The Frozen Food Locker Act, which was enacted at the 1944 session of the Alberta Legislature, and provides for the licensing, regulation, and control of cold storage locker plants. This legislation was enacted at the request of the Alberta Cold Storage Locker Plants Association, when it asked for legislation to provide for the orderly development of this rapidly expanding business. The prevention of unnecessary duplication of locker plants and assurance that these plants would be well built and properly equipped to provide the best possible service to locker renters, were the main objectives of this request.

In addition to conferring certain powers on the Minister of Agriculture, The Frozen Food Locker Act makes provision whereby regulations concerning almost every phase of operation in such plants can be made by the Minister of Agriculture with the approval of the Lieutenant-Governor in Council. The Act also provides for the appointment of an advisory board, consisting of not less than three and not more than five members, and it is the duty



of this advisory board to confer with and advise the Minister on any matter or item relating to the Act or regulations made thereunder.

After the regulations on licensing came into effect, all the operating locker plants were inspected and licenses were issued to those complying with the required standards. Only four plants failed to meet the requirements, and licenses in these cases were not issued until a subsequent inspection report indicated that unsatisfactory conditions had been corrected.

Thirty-four locker plants were licensed during 1944, and all of these plants, with one exception, were operating at the time the locker plant legislation came into effect. Twenty-seven plants provide what is termed "complete service," which includes chilling and ageing, cutting and processing of meats, curing and smoking of hams and bacon, wrapping and packaging, and sharp freezing; while the remaining plants offer an incomplete service consisting mainly in renting lockers in a low temperature room serviced by the patrons themselves.

The capacity of all operating plants was 8,966 standard lockers, with an average capacity of approximately six cubic feet.

Throughout the year, many enquiries were received from persons interested in the locker business, and 44 formal applications for licenses to establish locker plants were received. Approval was given to 26 of these applicants, and nine applications were rejected. The approval or rejection of the remaining applications has been delayed, due to the applications being incomplete or held for future consideration of the advisory board. All applications from points where there are more than one applicant, or where a plant is already approved or established, have been referred to the advisory board.

The shortage of refrigeration equipment meant delays for many operators who planned to commence operations during 1944. In order to make certain that available refrigeration equipment was used to the best advantage, the Wartime Prices and Trade Board made effective, May 1st, 1944, certain regulations that the prospective operator had to meet before a permit could be granted to purchase such equipment.

The task of organizing and drafting regulations, inspecting plants, and testing temperature recording instruments for the purpose of assuring satisfactory temperatures in such plants, was a heavy one for the staff of the Dairy Branch in addition to their regular duties. No extra staff was added to the Branch as a result of this additional work, and while there was some reduction in the amount of creamery inspection, it will be necessary to make some provision for extra help as soon as conditions become normal.

DATA

The following tables set forth the details of production for 1944 and statistical information concerning dairying in former years:

MONTHLY AVERAGE NET PRICES ESTIMATED PAID BY CREAMERIES IN ALBERTA
PER POUND OF BUTTERFAT IN "SPECIAL GRADE" CREAM, F.O.B.
SHIPPING POINT, FOR FOUR YEARS

	1944		1943		1942		1941	
	Cents	%	Cents	%	Cents	%	Cents	%
January	32.2	(4.8)	33.5	(5.1)	31.0	(4.5)	32.5	(4.5)
February	32.5	(5.2)	33.5	(5.3)	31.0	(4.6)	31.0	(4.6)
March	32.5	(6.0)	33.5	(5.8)	31.6	(5.1)	32.0	(5.1)
April	32.5	(7.5)	32.5	(7.0)	32.3	(6.3)	29.5	(6.6)
May	32.0	(10.6)	31.3	(9.8)	32.3	(9.4)	27.0	(10.9)
June	31.5	(14.4)	31.0	(13.9)	31.6	(13.4)	28.0	(14.2)
July	32.0	(14.1)	31.5	(14.1)	31.2*	(14.8)	31.0	(14.1)
August	32.5	(12.2)	31.5	(12.6)	31.2	(13.3)	34.0	(12.3)
September	32.5	(9.1)	31.5	(9.6)	32.0	(10.9)	32.5	(10.3)
October	32.7	(6.8)	31.5	(7.0)	32.7	(7.4)	29.5	(7.4)
November	32.7	(5.1)	31.5	(5.3)	33.5	(5.4)	29.5	(5.5)
December	32.7	(4.2)	31.5	(4.5)	33.8	(4.9)	30.0	(4.5)
The Year	32.28	(100.0)	31.71	(100.0)	31.94	(100.0)	30.34	(100.0)

*The estimated average prices paid for Special Grade butterfat during 1942, 1943 and 1944 do not include the Dominion Government Subsidy. This subsidy was 6c per lb. commencing July 6th, but was increased to 10c per lb. December 21st, 1942, and continued until April 30th, 1943, when it was reduced to 8c, effective to December 31st, 1943.

During 1944, a subsidy of 10c per pound butterfat was in effect.

NOTE.—The figures enclosed in brackets represent the monthly percentages of the cream receipts for the year.

CREAMERY BUTTER PRODUCTION

Year	Creameries	Pounds Butter	Selling Value	
			Total	Cents per lb.
1920	53	11,821,291	\$ 6,555,509	(55.45)
1925	99	19,630,101	6,959,059	(35.45)
1930	92	17,716,744	4,968,227	(28.04)
1935	97	23,094,707	4,588,917	(19.90)
1940	95	29,796,520	6,647,604	(22.31)
1941	94	35,316,143	10,789,082	(30.55)
1942	94	36,985,909	11,835,491	(32.00)
1943	93	38,656,940	12,443,669	(32.19)
1944 (Est.)	93	37,786,336	12,186,093	(32.25)

FACTORY CHEESE PRODUCTION

Year	Factories	Pounds Cheese	Selling Value	
			Total	Cents per lb.
1920	7	398,750	\$ 110,355	(27.70)
1925	14	1,473,835	306,604	(20.80)
1930	8	1,035,352	175,392	(16.94)
1935	11	1,364,526	168,280	(12.33)
1940	18	2,705,853	385,584	(14.25)
1941	18	3,140,978	614,061	(19.55)
1942	20	3,908,545	843,464	(21.58)
1943	18	2,563,257	592,112	(23.10)
1944 (Est.)	18	3,711,932	835,185	(22.50)

CREAMERY BUTTER PRODUCTION

	1943 Pounds	1944 Pounds	%
			*Decrease †Increase
January	1,906,370	1,721,130	* 9.7
February	1,901,742	1,788,426	* 6.0
March	2,235,601	2,306,995	† 3.2
April	2,680,811	2,679,412	* .1
May	3,746,253	4,173,078	† 11.4
June	5,505,889	5,496,499	* .2
July	5,657,591	5,248,265	* 7.2
August	4,886,053	4,894,336	† .2
September	3,705,052	3,493,625	* 5.7
October	2,662,623	2,521,225	* 5.3
November	1,978,970	1,865,406	* 5.7
December	1,789,985	1,597,939	* 10.7
	38,656,940	37,786,336	* 2.3

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FACTORY CHEESE PRODUCTION

	1943	1944	%
	Pounds	Pounds	†Increase
January	137,011	163,670	† 19.5
February	119,177	187,471	† 57.3
March	151,598	264,534	† 74.5
April	179,132	286,286	† 59.8
May	258,172	416,785	† 61.4
June	350,625	499,366	† 42.4
July	352,947	479,054	† 35.7
August	310,176	421,868	† 36.0
September	237,584	325,517	† 37.0
October	175,217	254,016	† 45.0
November	143,216	204,889	† 43.1
December	147,802	208,476	† 41.1
	2,562,657	3,711,932	† 44.8

TOTAL ANNUAL VALUE OF DAIRY PRODUCTS

1900	\$ 546,476	1935	\$14,252,500
1910	7,855,761	1940	19,532,344
1915	15,896,586	1941	27,376,772
1920	34,000,000	1942	31,574,838
1925	23,002,000	1943	34,428,814
1930	18,675,500	1944 (Est)	35,330,189

MILK COWS

Year	Cows	Year	Cows
1901	46,101	1936	458,200
1906	101,235	1940	416,800
1911	147,687	1941	362,064
1916	277,324	1942	366,800
1921	432,838	1943	376,000
1926	436,500	1944	385,500
1931	385,000		

APPENDIX

REPORT OF THE ADMINISTRATOR OF MILK CONTROL

(A. T. NEALE)

Reference to the accompanying tables will indicate that fluid milk requirements in the controlled areas covered have continued to be large, and that even though military demands have lessened considerably, a high volume of sales has been maintained throughout the year 1944. Production and distribution difficulties have been many and varied, but in spite of these there has been made available to the consuming public, continuously, an adequate supply of high quality milk and cream.

The work of the Board of Public Utility Commissioners during the past year in its relation to milk control has been mainly of an administrative nature, as there have been few developments necessitating changes in the general policies laid down by the Board to control the fluid milk industry of the Province, although it may be well to mention that recent orders of the Wartime Prices and Trade Board prohibiting the sale of "Special" milks and limiting the quantity of butterfat which may be contained in table cream sales have, to some extent, affected the policy upon which the Board's price structure has been based.

It has been necessary for Board officials to continue to devote much time to Federal matters, such as recommendations and supervision of milk subsidies and milk price adjustments. The following figures in this connection may be of interest:

Consumers' Subsidy.

Throughout the Province, 743 distributors have received reimbursement monthly for allowance of this subsidy by them to their customers at the rate of 2c per quart.

Producers' Subsidy.

This subsidy was paid on regular settlement dates on 129,082,710 pounds of milk, to 1,358 producers, on 55 markets, by 163 distributors, who received reimbursement for such payments, monthly. The subsidy was paid at the following rates: Jan. 1st, April 30th, Oct. 1st-Dec. 31st, 1944, 55c per 100 pounds; May 1st-Sept. 30th, 1944, 35c per 100 pounds.

In a few instances where producer-distributors have benefitted as a result of price adjustments, the subsidy rate has been 25c per 100 pounds.

Price Adjustments.

After proper enquiry had been made in each case, the Board recommended, and the Wartime Prices and Trade Board approved, milk price adjustments on 30 markets in the Province.

Meetings.

During the year, representatives of the Board attended the following meetings with Federal authorities and Provincial milk control agencies to formulate and co-ordinate policies relating to fluid milk supply and prices:

Saskatoon—Western Milk Control Agencies.

Ottawa—Agricultural Food Board, Wartime Prices and Trade Board, and all milk control agencies of the Dominion.

Calgary—Western Milk Control agencies with representatives of the Wartime Prices and Trade Board, Ottawa.

TABLES

- 1. Per Capita, per diem, Consumption of Fluid Milk in Pints, Monthly, for 1944.
- 2. Consumption of Fluid Milk in the Cities of Calgary, Edmonton and Lethbridge, Monthly, 1944.
- 3. Consumption of Fluid Cream in the Cities of Calgary, Edmonton and Lethbridge, Monthly, 1944.
- 4. Fluid Milk Consumption in the Cities of Edmonton, Calgary and Lethbridge, 1940-1944.
- 5. Fluid Cream Consumption in the Cities of Edmonton, Calgary and Lethbridge, 1940-1944.
- 6. Fluid Milk Purchases by Calgary, Edmonton and Lethbridge Distributing Plants, 1940-1944.
- 7. Summary of Milk and Cream Producers Operating on December 31st, 1944, under Board of Public Utility Commissioners' License.
- 8. Summary of Milk and Cream Distributors operating on December 31st, 1944, under Board of Public Utility Commissioners' License.
- 9. Effective Milk and Cream Prices in Alberta Controlled Areas.

TABLE 1
PER CAPITA CONSUMPTION OF FLUID MILK, IN PINTS, MONTHLY, FOR 1944
(To include Cream Consumption Converted to Milk Equivalent)

Area		PINTS (PER DIEM)											
(Pints	per diem)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary		1.158	1.209	1.208	1.201	1.2	1.131	1.235	1.137	1.124	1.134	1.166	1.132
Edmonton		1.160	1.216	1.195	1.168	1.150	1.103	1.078	1.033	1.022	1.014	1.043	1.038
Lethbridge		.93	.99	.98	1.002	1.019	1.020	.99	.98	.94	.95	.95	.96

TABLE 2

CONSUMPTION OF FLUID MILK IN THE CITIES OF CALGARY, EDMONTON AND LETHBRIDGE, MONTHLY, 1944—IN QUARTS

Area	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	1,245,607	1,223,081	1,305,556	1,250,862	1,306,304	1,204,215	1,314,348	1,181,797	1,148,536	1,242,379	1,235,199	1,225,277
Edmonton	1,443,128	1,413,722	1,486,985	1,412,890	1,453,213	1,404,005	1,344,356	1,308,088	1,276,443	1,347,100	1,323,073	1,370,991
Lethbridge	176,297	173,843	185,049	183,415	196,791	186,172	192,436	184,657	179,810	187,358	178,453	179,500

TABLE 3

CONSUMPTION OF FLUID CREAM IN THE CITIES OF CALGARY, EDMONTON AND LETHBRIDGE, MONTHLY, 1944—IN QUARTS

Area	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	101,276	98,090	104,513	101,424	100,415	94,627	111,188	110,846	105,435	110,136	109,964	115,196
Edmonton	127,770	125,382	131,941	123,116	120,013	109,304	132,972	119,551	112,285	117,810	123,215	124,282
Lethbridge	12,644	12,952	13,705	13,253	13,740	12,535	12,158	12,713	13,288	13,349	13,621	13,831

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TABLE 4
FLUID MILK CONSUMPTION IN CITIES OF EDMONTON, CALGARY AND
LETHBRIDGE, 1940-1944—IN QUARTS

Area	1940	1941	1942	1943	1944
Calgary	9,364,294	10,043,712	11,967,311	14,026,370	14,883,161
Edmonton	10,381,263	10,823,425	11,763,647	15,831,989	16,585,994
Lethbridge	1,488,834	1,517,788	1,503,589	1,989,889	2,203,781
Totals	21,234,391	22,384,925	25,234,547	31,848,248	33,672,936

TABLE 5
FLUID CREAM CONSUMPTION IN CITIES OF EDMONTON, CALGARY AND
LETHBRIDGE, 1940-1944—IN QUARTS

Area	1940	1941	1942	1943	1944
Calgary	907,353	967,339	949,838	1,019,293	1,263,110
Edmonton	962,929	962,911	934,799	1,283,231	1,467,631
Lethbridge	101,691	104,357	117,780	129,419	157,789
Totals in quarts	1,971,978	2,034,607	2,002,417	2,436,946	2,888,530
Totals in B.F. equivalent, lbs.	749,563	852,944	752,292	723,347	820,484

TABLE 6
FLUID MILK PURCHASES BY CALGARY, EDMONTON AND LETHBRIDGE
DISTRIBUTING PLANTS, 1940-1944—IN POUNDS

	1940	1941	1942	1943	1944
Calgary	31,125,975	33,526,356	37,971,410	41,437,886	46,353,477
Edmonton	26,205,032	27,478,447	31,392,466	40,097,468	43,135,693
Lethbridge	2,696,664	3,986,417	5,398,593	11,776,105	10,623,093
Totals	60,027,671	64,991,220	74,762,469	93,311,459	100,112,263

*Includes milk for Airport.

†Includes milk for Airport and Prisoner of War Camps.

TABLE 7
SUMMARY OF MILK AND CREAM PRODUCERS OPERATING ON DECEMBER 31st,
1944, UNDER BOARD OF PUBLIC UTILITY COMMISSIONERS LICENSE

Controlled Area	Milk	Cream	Total
Calgary	220	64	284
Camrose	10	5	15
Crow's Nest Pass	8		8
Edmonton	228	57	285
Lethbridge	39	6	45
Ponoka	3		3
Red Deer	27	15	42
Totals	535	147	682

TABLE 8
SUMMARY OF MILK AND CREAM DISTRIBUTORS OPERATING ON DECEMBER 31st,
1944, UNDER BOARD OF PUBLIC UTILITY COMMISSIONERS LICENSE

Controlled Area	Milk	Cream	Total
Calgary	6	3	9
Camrose	2		2
Crow's Nest Pass	5		5
Edmonton	25	1	26
Lethbridge	3		3
Ponoka	1		1
Red Deer	3		3
Totals	45	4	49

TABLE 9
MILK AND CREAM PRICES EFFECTIVE JANUARY 1st, 1944, FOR ALBERTA
CONTROLLED AREAS

Area	MILK		CREAM		
	Price to Producers per 100 lbs. (3.6% B.F.)	To Consumers per Quart	To Producers per lb. B.F.	To Consumers 10% Sub-standard per Pint	To Consumers 18% B.F. per Pint
Bowden	\$2.28	*11c	\$.45		\$.25
Calgary	2.60	*12c	.45	\$.17	.28
Camrose	2.28	*11c	.45		.25
Crow's Nest Pass	2.63	*12c	.45	.17	.28
Edmonton	2.60	*12c	.45	.17	.28
Lethbridge	2.55	*12c	.45	.17	.28
Ponoka	2.28	*11c	.45		.25
Red Deer	2.28	*11c	.45		.25

*Lawful quart price—subject to 2c per quart Consumer Subsidy authorized by Order No. 1250 of The Wartime Prices and Trade Board, Ottawa.

REPORT OF THE POULTRY COMMISSIONER

(C. W. TRAVES)

The 1944 poultry season commenced in rather an auspicious manner with the holding of a National Poultry Conference in Ottawa, January 12th, 13th and 14th. The industry was fully represented by senior officials of the Department of Agriculture in Ottawa, Deputy Ministers of seven Provinces, senior Dominion and Provincial poultrymen of each Province, a representative from each university, three producer representatives from each Province, and representatives of hatchery associations, feed manufacturers and the produce trade from each Province. In addition to these, there were other people present who were closely connected with the poultry industry.

On January 10th and 11th, prior to the National Poultry Conference, the Government men had a preliminary conference to discuss regulations, revision of regulations, and administration of these regulations, before the general conference opened.

At the general conference the following committees were set up:

- (1) Record of Performance.
- (2) Flock Approval.
- (3) Hatchery Operations.
- (4) Feeds and Feeding.
- (5) Management, Housing and Health.
- (6) Merchandising Poultry Products.
- (7) Poultry Extension Work.
- (8) Post-war Education.
- (9) Poultry Post-war Rehabilitation of Europe.
- (10) Turkey Production and Market Requirements.
- (11) Agricultural College and Experimental Farm Poultry Workers Conference.
- (12) Poultry Statistics.

A great deal of valuable work was done by each committee, and many worth-while recommendations were made.

During 1944, the poultry industry of Alberta continued to show the rapid expansion that took place during the two previous years, the monetary value being kept well up due to floor prices on eggs and the high price that was obtained for the heavy production of turkeys. As usual, the major portion of this expansion came from small farm flocks, although there was considerable evidence of more flocks of the size that might be termed commercial, and on many hundreds of farm new poultry accommodation was built so that many of the farm flocks were increased from the average of a little over 100 birds per flock to 250 up to 500 birds to the flock. The following table gives some idea of the continued expansion of the poultry industry in Alberta:

	Commercial Eggs	Hatching Eggs	Poultry Meat	Total Value
1940	\$3,878,700	\$ 100,200	\$ 3,640,000	\$ 7,618,900
1941	4,364,000	115,400	3,750,000	8,229,400
1942	6,230,000	165,200	5,120,000	11,515,200
1943	6,647,700	205,900	7,480,000	14,333,600
1944	9,945,375	246,825	8,000,000	18,192,200

The Special Products Board at Ottawa purchased and dried all surplus eggs in Grade A and Grade B category for export as egg powder to the armed forces, to Great Britain and to other countries. Naturally, the unlimited market that existed for surplus production at a set price created a floor so that in spite of very heavy production in excess of what local markets could consume, producers received again during 1944 a reasonably good average price throughout the year. The steady increase in the number of commercial pullets being purchased by the producers from the hatcheries, along with an increased number of early-hatched pullets each year, is giving to Alberta, the same as to the other Provinces, an increasingly large number of pullets each year coming into the lay during August, September and October, with the result that we are getting a more uniform annual production of eggs, which is reducing the length of the period of egg shortage and extremely high prices that prevailed in the past during the late fall and early winter months. In fact, indications are that the period of fresh egg shortage and the high price will be practically eliminated in a few years if the present trend continues. This is causing a considerable amount of dissatisfaction, particularly among specialized producers, who have always looked toward the short supply and high price period as their opportunity to make extra profit from good feeding and management of early hatched pullets. However, the present situation of higher average price for the year than existed a few years ago being shared by a greatly increased number of poultrymen, is more desirable than the previous situation of extremely high markets for a short period being shared by a very few and then a considerable period of excessively low prices being shared by nearly all the producers.

Egg Marketing.

Although the quantity of egg production was quite satisfactory, the percentage of eggs in Grades B and C during the late spring, summer, and early fall of 1944 was disappointing as compared to 1943. Last year an intensive campaign was put on during the late spring and early summer, emphasizing the necessity of top grade eggs if we were to fill the contracts to Britain, particularly with egg powder, and the farmers responded very well to the campaign, with the result that the proportion of eggs in Grade A was the highest ever marketed on the prairies for that period of the year. This year, however, the lifting of grain quotas, scarcity of help, and general improvement in the economic position of a large percentage of our farmers resulted in less interest, with the result that during the warm weather we slipped in the percentage of Grade A eggs and, according to the wholesale trade, marketed the highest percentage of B and C Grade eggs that we have marketed for five years. Very definitely this is a step in the wrong direction, and if the prairie farmers expect to obtain present reasonable prices on export contracts, they must produce the grade of eggs that is required for the export market. Toward the close of the year we were notified that Great Britain is again in the market for shell eggs. These eggs must be Grade A Large and Grade A Medium, and a good percentage of them must be produced during the latter part of the summer and early in the fall when we have warm weather, and must be produced from pullets coming into production, not from hens finishing their laying year and feeling the

strain of long production with resultant lowered internal quality of the eggs.

Following the revision of the Regulations Respecting the Grading, Purchase and Sale of Eggs, which came into effect last year, the Dominion Department and this Department worked very closely together in the registration of stations, and excellent improvement has been shown. In the issuing of registration numbers by the Dominion Department and license numbers from this Department, plans were made so that registration and license numbers correspond, which was of material assistance to registered station operators in the printing of grade tags, stationery, etc. The following table shows the comparison of the registration of stations during 1943 and 1944:

REGISTERED STATIONS WITH METHOD OF REFRIGERATION

	1943	1944
Mechanical	49	93
Ice Storages	7	19
Ice Bunkers	9	36
Basements	2	10
Ice-water Blower	1	2
Total	68	160

TENTATIVE REGISTERED STATIONS WITH PROPOSED METHOD OF REFRIGERATION

	1943	1944
Mechanical	27	3
Ice Storages	18	6
Ice Bunkers	9	1
Basements	5	
Uncertain	6	
Total	65	10
Number of stations fully registered	68	160
Number of stations tentative registration	65	10
Number of stations not approved, no number issued	60	
Number of stations notified premises must be closed as at December 31, 1944		8
Total	193	178

The above table shows that a large percentage of the tentative registered stations operated during 1943, and quite a large percentage of the stations that were not approved and for which no number had been issued qualified for registration. It will also be noted that there are less total stations during 1944 than in 1943. This was to be expected, as in some instances there was excess competition on the part of some wholesalers and individual operators to get into the business, and from the administration standpoint of necessity the first year or two there is some trial and error in approving the opening of stations. However, the situation has righted itself very rapidly, with the result that next year should see a few more of the stations that have been opened at places where the volume of business doesn't justify a station close, and the situation is now in hand to the point where no additional stations will be allowed to open unless the volume of business justifies and until such time as a station qualifies for registration. This will place the control of registered stations on a very firm footing.

The Dominion Department has adopted a rather strict attitude in the classification of stations as well as for the requirements for registration, and although this may have seemed somewhat hard on some of the operators at the beginning, the policy has been bearing fruit in that we have made such a good showing. Of the 160 stations we now have in operation, 143 have a holding room

for eggs separate from the grading room, and only 17 have a combined grading and holding room. The stations are rated as follows: Excellent, 16; Good, 78; Fair, 66. When we keep in mind that even stations rated as "Fair" comply with all requirements for registration, we realize that the stations rated as "Good" are well above the average, and those that are rated as "Excellent" are outstanding.

During the past year there were 408 inspections made at country points for registered stations, and during these inspections, 31 graded packs of eggs were rejected and had to be regraded.

There was a change in policy last year in that grading certificates were not issued to all persons doing the grading work, but only to one individual at each registered grading station, that individual being held responsible for the interpretation of the Canadian Grade Standards for that station. This has been of material assistance, not only to the station operators, but to the Inspection Service, in that whenever there was any difficulty regarding the grading of eggs there was only one person to be dealt with, and that was the person who was responsible, not the individual graders.

A serious situation arose during the spring and summer due to the extremely heavy production of eggs, considerable falling off in the shipments to the west and to the north, and an exceptionally heavy unexpected production from British Columbia. The cold storage space available was taken up with a heavy carry-over of dressed poultry from 1943 as well as all other meat products and perishable goods in connection with the war effort, and as there was no drying plant in British Columbia they started shipping their surplus eggs to the drying plants in Alberta, which added to the situation. Every available space that could be found was converted into temporary storage, and considering some of the places used for storage purposes in the emergency, it was surprising the small amount of deterioration that took place. During the summer permission was received to double the capacity of the Edmonton drying plant, and with this being completed late in the fall, we now have egg drying capacity in Alberta of approximately 2,000 cases per day. This should materially assist in the handling of the heavy volume that is expected for the coming year.

Dressed Poultry.

At the beginning of the year the dressed poultry situation appeared to be extremely serious in that there was a tremendous carry-over of all kinds and grades in storage, and no export market available. Considerable quantities were held for armed forces contracts, but unfortunately the Canadian armed services received such small proportions of poultry in their diet that the amount really was insignificant, which meant that at least 90% of the poultry set aside under the contracts were just taking up storage room.

During the year a small amount of poultry started to move to Great Britain, and then with the opening of the market to the United States very heavy shipments of dressed poultry went to the States, and together with interprovincial shipment of poultry, especially turkeys during the month of December, made a very material improvement in the storage situation. The following table shows the movement of dressed poultry for 1943 and 1944:

1943—NO EXPORT						
	Cars	Turkeys	Geese	Ducks	Chickens	Fowl
1st Quarter	1					
2nd Quarter						
3rd Quarter		60%	5%	5%	15%	15%
4th Quarter	126					
	127					
1944—TO BRITAIN						
	Cars	Turkeys	Chickens	Fowl		
1st Quarter	1					
2nd Quarter	9					
3rd Quarter		10%	45%	45%	Grade B and up	
4th Quarter						
	10					
1944—TO UNITED STATES						
	Cars	Turkeys	Chickens	Fowl		
1st Quarter	18					
2nd Quarter	44					
3rd Quarter	44	1%	40%	59%	Grade B and up	
4th Quarter	65					
	127					
1944—TO OTHER PROVINCES						
	Cars	Turkeys	Geese	Ducks	Chickens	Fowl
1st Quarter	21					
2nd Quarter	9					
3rd Quarter	11	80%	5%	5%	5%	5%
4th Quarter	177					
	218					
Total cars	355					

NOTE: Approximate weight of cars, 28,000 lbs. net.

This is the first year that we have been able to obtain these figures from the Dominion Inspection Service. They are planning in the future to let us have a breakdown of the dressed poultry inspections showing the percentages of each grade of the various kinds and sub-kinds of dressed poultry that have been inspected, both domestic and export.

Live Poultry.

Naturally, with the heavy increase in the poultry population, there were heavy marketings of live poultry during the summer and fall. A campaign was put on by the Alberta Poultry Federation and the wholesale trade in the press and over the air, as well as through direct mail contact with the producers, requesting that there be a more orderly and extended marketing of live poultry so as to avoid as far as possible the usual late fall and early winter heavy rush of live poultry receipts. The volume of poultry started to roll earlier than usual and continued to come in, but unfortunately the trade paid possibly the lowest prices that have been paid for many years for live poultry. The reason given was that there was no written contract for export prices, although there was sufficient assurance given that there was no need to worry, as all chicken and fowl in Grades A and B above 3½ pounds would be accepted for export at ceiling prices, and at no time was there any indication of any information to the contrary. Undoubtedly the better financial situation that prevailed generally throughout the country as mentioned in the case of lower quality of eggs had something to do with the very high percentage of poorly finished birds that were shipped to market, but the great spread that existed as between the live poultry buying prices and the ceiling prices at which dressed poultry were sold, was anything but encouraging from the producer standpoint.

Serious consideration should be given to regulations to eliminate the present buying of live poultry on No. 1 and 2 Grades and then having this poultry dressed out according to the Canadian Standards of A, B, and C. If the live poultry situation and the resultant dressed poultry situation is to be remedied, some more efficient means of buying on grade and rail grading at country points will have to be brought into effect.

Flock and Hatchery Approval Regulations.

On May 1st, 2nd and 3rd a meeting was held in Winnipeg, at which senior officials of the Department in Ottawa and the senior poultry administrators of each Province were present. The Hatchery Approval Regulations were discussed at some length at this meeting, although most of the time was put on the Flock Approval Regulations. Later in the year a meeting was held at Vancouver, at which the senior Dominion and Provincial men, as well as all the R.O.P. inspectors of the four Western Provinces were present, with a view of unifying opinions, and although a certain degree of unification did come out of the meetings, a great deal of work is still necessary before we have regulations of a more uniform nature, and especially uniform interpretation of those regulations.

There was again a considerable increase in the number of birds blood tested, and although the reaction to pullorum disease was somewhat higher, we still have about the best showing in Canada. An increase in reaction is only to be expected where a considerable number of new flocks that have never been tested before are taken on the list.

Year	Method of Testing	No. of Flocks	No. of Birds	% Reaction
1930-31	Tube Agglutination	148	18,608	20.2
1931-32	" "	232	31,177	12.9
1932-33	" "	188	26,381	8.6
1933-34	" "	205	33,295	7.3
1934-35	" "	645	104,858	11.2
1935-36	" "	615	94,536	5.5
1936-37	" "	815	136,228	5.5
1937-38	" "	677	108,908	4.8
1938-39	" "	534	92,355	4.51
1939-40	Whole Blood	437	80,927	5.1
1940-41	" "	412	91,868	2.6
1941-42	" "	510	120,198	2.12
1942-43	" "	460	120,841	0.35
1943-44	" "	664	165,903	0.716

At the National Poultry Conference, every Province expressed willingness to accept the whole blood or rapid method of testing for pullorum disease, provided it was carried out on an official basis the same as was being done in the Province of Alberta. This was very gratifying in view of the fact that we have been opposed in our method of testing for the past five years, and in fact were prohibited from shipping chicks to other Provinces. However, the road doesn't seem to be altogether clear in this respect, as already there are indications that steps are being taken to attempt to prove the whole blood method to be less efficient than the tube method of testing.

There was a considerable increase in incubator capacity and also in the use of incubator capacity during 1945, as is shown by the following table:

Year	Egg Setting Capacity	% of 1936	Chicks Hatched	% of 1936
1936	924,300		1,028,881	
1937	1,036,526	112.1	1,068,056	103.8
1938	1,033,906	111.9	1,171,082	113.8
1939	1,052,759	113.9	1,394,194	135.5
1940	1,203,368	130.2	1,538,597	149.7
1941	1,269,117	137.3	1,938,052	188.4
1942	1,407,280	151.2	2,631,468	255.8
1943	1,408,070	152.3	3,607,372	350.6
1944	2,102,434	223.1	5,476,476	532.3

The war demand for poultry products, particularly eggs, and the reasonably high price that prevailed throughout the year for eggs was a great incentive for many people to increase the size of their poultry flocks and for a good number of these to go in for poultry on what might be considered a commercial scale. It now appears that we have reached the peak of production desired for domestic and export contracts, and steps are being taken to discourage over-production of chicks during the 1945 season. In fact, this year hatcheries were encouraged to discontinue producing chicks by the end of June, and most hatcheries co-operated quite willingly. At this time last year hatcheries had very heavy advance bookings of chicks, and a few hatcheries were practically sold out of anything but the later hatches. This year many of our large hatcheries report that at the end of December bookings of chicks are approximately 25% of what they were this time last year, giving an indication that the chick buying public will be voluntarily reducing the purchase of chicks, largely due to the general improvement in economic conditions, and as stated before, due to the very poor prices received for their live poultry on the market.

Provincial Poultry Plant.

This year the help situation was somewhat more stable at the Poultry Plant, although lack of fully qualified poultrymen, especially poultrymen with technical training, hindered somewhat the amount of experimental and breeding work that could be done. However, the Poultry Plant entry in Dominion Record of Performance is one of the largest in Canada for a single breed, and in spite of the largeness of the entry and the difficulties mentioned regarding help, was able to make one of the best showings of all the entries throughout Canada. This enabled us to sell about 800 R.O.P. wing-banded cockerel chicks and about 250 blood tested and approved R.O.P. breeding males to Alberta Approved Flock owners. The breeding entry is showing steady improvement, and it is expected that next year will see about three or four times the number of R.O.P. wing-banded chicks available to Alberta Approved Flock owners.

The so-called broad breasted turkeys, especially in the bronze breed, have been creating a considerable amount of comment in recent years, but the banding of these turkeys has not been recognized under the American Standard of Perfection. However, the broad breasted are by far the most numerous in the States today, and have been rapidly gaining favour in Canada, so some breeding work and crossing of the broad breasted with the standard bronze was done at the Provincial Poultry Plant, and this work will be continued next year, the idea being to maintain the standard qualities along with the improved meat type and earlier maturity of the broad breasted. Some additional work on raising turkeys on verandas was carried out, but due to lack of proper equipment it was not felt that the information gained should be made available.

The Plant supplied laying stock to the Olds School of Agriculture and the Department of Health at Red Deer, as well as selling some surplus pullets late in the fall to poultrymen in the district.

REPORT OF DIRECTOR, AGRICULTURAL EXTENSION SERVICE

(R. M. PUTNAM)

The activities of the Agricultural Extension Service were maintained and somewhat increased in 1944. The largest proportion of the time and energy of the staff of the Extension Service was, as in former years, devoted mainly to work relating to the wartime programmes. The Dominion-Provincial Farm Labour Agreement was renewed with the Dominion Department of Labour on April 1st, 1944, and the many activities carried on under this co-operative arrangement were directed and conducted by the staff of the Extension Service. The Farm for Victory programme was continued on a somewhat reduced scale. The distribution of pertinent agricultural information remained the chief function of the Extension Service.

It is a pleasure to report some enlargement of the services of the Extension Branch in 1944. W. S. Scarth was moved to Edmonton to become Supervisor of District Agriculturists. An Extension Agricultural Engineer was added to the staff in the person of B. T. Stephanson, B.Sc. (Saskatchewan). This allowed a more comprehensive programme in agricultural engineering problems to be conducted during the summer. Plans are being made to expand this service in 1945. Two additional District Agriculturists were also added in 1944. It is also gratifying to report that during the year the District Home Economists were increased from a staff of one to a staff of five. The Home Economists of the Olds School of Agriculture were employed as District Home Economists for the summer months as well. The service performed by the District Home Economists appears to be appreciated by the public.

Some progress was made in 1944 to meet the problem, mentioned in this report for several years, of obtaining better contacts with the public. In 1944 several enlarged municipalities set up Agricultural Service Committees or Boards to deal with local problems. The director of the Extension Service was privileged to discuss this proposal with delegates attending the annual convention of the Association of Rural Municipalities, and at this convention a resolution was passed requesting the Government to make provision in The Municipal District Act for the formation of Agricultural Committees. It is felt by many that municipal government, being one of the three public authorities in Canada, must and will assume greater responsibility in local agricultural problems.

The Extension Service received much valuable assistance from many sources during the year, for which appreciation is expressed. Special mention is made of the help received from the University of Alberta and from the various services of the Dominion Department of Agriculture. There is a growing opinion in many quarters that there should be a closer relationship between the services of the Dominion and Provincial Departments of Agriculture. While actual duplication of effort does not exist, closer co-ordination on some established permanent basis would permit the resources of both Departments being used more efficiently to serve the public.

With post-war reconstruction and rehabilitation problems to be faced in the near future, such co-ordination is even more desirable.

A word of appreciation is expressed to the press, which has provided a useful service by carrying agricultural information in its columns.

The Extension Service desires to express its appreciation to the other branches of the Department for their co-operation in all extension activities.

A word of thanks is also given to the hundreds of citizens who have in any way assisted in meeting the farm labour problem and to the officials of National Selective Service, with whom there is frequent contact under the Dominion-Provincial Agreement.

Last but not least, the Director wishes to express appreciation to the District Agriculturists for their co-operation and for their untiring efforts to serve the public. Working under many wartime restrictions, and with the added burden of the Dominion-Provincial Farm Labour Programme, these men have been able to maintain most of their services.

Short Courses, Field Days and Agricultural Meetings.

A total of 1,200 agricultural meetings of all kinds were held under the auspices of the Extension Service in 1944. Estimated attendance totalled 58,400. At gatherings of this nature, farmers have the opportunity to discuss local problems with their District Agriculturist or with other officials.

Among some of the most successful meetings were the 26 "Wiltshire Bacon Shows." These were organized during February and March by the Production Service, Dominion Department of Agriculture, and the Alberta Department of Agriculture. A representative carlot of hogs was selected at a country point, tattooed and consigned to a packing plant. After processing, ten representative Wiltshire sides were returned to the shipping point for display to the producers at a general meeting. Average attendance at these bacon shows was 164.

During the months of January, February and March a regular series of agricultural meetings was held with the District Agriculturists. Agricultural Engineering, Cereal and Forage Crops, and other topics were discussed. A total of 237 meetings were held during this series. A similar plan was followed during June, July and August, when 86 farm machinery field days were held.

It may be opportune at this point to mention the work in agricultural engineering. B. T. Stephanson joined the Department on May 15th as Extension Agricultural Engineer. A series of farm machinery field days were held during June, July and August. F. F. Parkinson, instructor in Agricultural Engineering, Olds School of Agriculture, assisted with these field days. The main topic discussed at these field days was the adjustment of tillage implements. It is hoped that such demonstrations may be extended to include haying and harvesting equipment as well.

A great deal of interest has been shown in water systems and sewage disposal for farm homes. A mimeograph on this subject was prepared and widely distributed. Since only about 10% of Alberta farm homes have running water and sewage disposal systems, there is a great demand for information on this subject.

Rural electrification is another popular topic. The construction and operation of two test areas, one at Vegreville and one at Olds, has focused attention on the use of electricity on the farm. A bulletin on this subject was published, and considerable other work has been done, too.

Another agricultural engineering problem is that of threshing forage crop seeds. More work on this subject is required.

A series of five weed meetings were held in July, at which T. K. Pavlychenko, of the University of Saskatchewan, was the main speaker. These meetings were arranged in co-operation with local Boards of Trade, etc.

During February and March a number of two-day short courses were held in co-operation with the agricultural sections of Boards of Trade, etc. Among the points where such courses were held were: Calgary, Edmonton, Medicine Hat, Red Deer, Drumheller, and others.

The Dominion Experimental Farm Service, through its Illustration Stations, held a total of 24 field days during the summer. The Department provided assistance at most of these events.

The agricultural meeting is the oldest and is still the most popular, and perhaps the most effective extension method. Unfortunately many farmers do not turn out. There is need on the part of all extension workers to be mindful of the necessity of making the agricultural meeting both attractive as well as educational. Films and other visual aids, effective advertising and good local organization are useful for this purpose.

Publications and Statistics.

It is estimated that 192,700 topical bulletins, leaflets, circulars and plans were distributed by the Agricultural Extension Service in 1944. This is a considerable reduction from 1943, and is accounted for mainly by the fact that a large number of special leaflets were sent out in 1943. The following topical bulletins, circulars and leaflets were reprinted and printed in 1944:

- Circular 7—Creeping Red Fescue (reprint).
- Bulletin 10—Production of High Quality Cream (reprint).
- Bulletin 35—Beekeeping for Beginners in Alberta (reprint).
- Leaflet 38—Construction of Sod Poultry House (reprint).
- Leaflet 46—Wild Mustard (reprint).
- Leaflet 48—Canada Thistle (reprint).
- Leaflet 50—Sow Thistle (reprint).
- Bulletin 57—The Salad Bowl (reprint).
- Bulletin 58—Wintering Bees in Alberta (reprint).
- Leaflet 61—Poultry Prepared on the Farm for Marketing (reprint).
- Circular 63—The Selection and Seeding of Grasses and Legumes in Alberta (reprint).
- Circular 68—Wild Rose Hips for Vitamin C (reprint).
- Circular 69—Diseases of Sucking Pigs.
- Bulletin 70—Electricity on the Farm.
- Special Leaflets—Use of Honey for Canning and Preserving (reprint); Simple Water and Disposal Systems.
- Plans—Danish Hog Plant (reprint); Stook Sweep Plant (reprint); Single and Double Deck Poultry House (reprint); Oat Hull Sifter (reprint); Poultry Brooder House (reprint); Double Purpose Hog Barn Hay Stack; Ice Well; Cattle Squeeze.
- Joint Publications—Joint Series No. 4, "Feeding of Dairy Cows in Summer."

The Department provided funds to reprint two University of Alberta Bulletins in 1944. These were:

- Bulletin No. 10—Binder and Knotter Troubles.
- Bulletin No. 19—Sheep Production in Alberta.

The periodic publications issued by the Department were continued. Agricultural Notes were issued weekly throughout the year. These are published mainly for the use of the press, but they are also sent to agricultural officials throughout the Province and elsewhere.

Agricultural Information was continued throughout 1944. Six issues of this publication were prepared on the following subjects:

- No. 1—"Western Canada and the United Nations Food Plans."
- No. 2—"American Postwar Economic Problems in Agriculture."
- No. 3—"The Feeding of Dairy Cows in Summer."
- No. 4—"Report of the Ontario Agricultural Commission of Inquiry on Floor Prices for Farm Products."
- No. 5—"Some Australian Problems in Agriculture."
- No. 6—"Trends in Foreign Agricultural Policies."

In its second year of publication, Agricultural Information continued to meet the need of agricultural officials for up-to-date information on current subjects. In addition to preparing Agricultural Information, the Supervisor has also compiled much specific information on many subjects for various officers of the Department.

The Farm for Victory Bulletin was published ten times in 1944, and each issue was mailed to about 1,500 people.

The Annual Report was printed and distributed as in former years.

Other periodic publications include: (1) Report of Agricultural Conditions (May to September); (2) Junior Farm Club Bulletin (Quarterly).

No change in the compilation of Agricultural Statistics took place in 1944. Without more staff, it is virtually impossible to expand the present service. The need continues, however, for more information. This is particularly noticeable on the part of those who are working with post-war problems, and the demand will increase when the municipalities undertake more agricultural work. It is hoped that during the coming year some progress may be made in this field.

Two statistical releases were issued. In January the "Gross Value of Agricultural Products" for 1943 was issued, and in October a "Preliminary Estimate of Production for 1944" was made and published.

Radio.

The radio is an important means of disseminating information, but it is doubtful if as much use is being made of it as there should be in broadcasting agricultural information. There is much to be said in favour of the Department having a radio commentator on its staff, who could not only prepare and give scientific agricultural information in a professional manner, but who could also analyse and interpret national policies and information for the Alberta farmer. During 1944 the Department has been interested in four radio programmes:

1. *Farm Radio Forum.*—The Department is represented on the Provincial Farm Radio Committee. In 1944 there were 126 organized listening groups, but the interest in this broadcast is greater than the number of listening groups suggests. Farm Radio Forum is sponsored by the Canadian Federation of Agriculture, the Cana-

dian Association of Adult Education, and the Canadian Broadcasting Corporation.

2. *Alberta Farm and Home Forum*.—Throughout the year, the Alberta Farm and Home Forum continued activities. Broadcasts were given over radio stations CKUA and CFCN on Mondays, Wednesdays and Fridays of each week from 9:15 to 9:30 p.m. This programme is a joint effort of the Department of Extension of the University of Alberta and the Extension Service of the Alberta Department of Agriculture. Talks on subjects of interest to farmers and homemakers occupy ten minutes of each broadcast, and are followed by five minutes of Agricultural Notes. During 1944, 71 of these talks were given by members of the staff of the Alberta Department of Agriculture, and 142 editions of Agricultural Notes were prepared and broadcast.

3. *Junior Farm Forum*.—A total of 18 radio talks were given on this broadcast from January 1st to May 31st, 1944. This programme was not renewed in the fall of 1944, for it was felt that the response to it was not sufficient to warrant the time and effort required to maintain it.

4. *Special Talks*.—The main talks given under this category were those on the "Help Wanted" broadcast from May to October. A total of 16 talks were arranged to deal with farm labour matters. The programme was sponsored by the Canadian Broadcasting Corporation and the Dominion-Provincial Farm Labour Service.

Several spot announcements dealing with seasonal matters were released.

Agricultural Fairs.

Fourteen fairs were held in 1944, a decrease of two from 1943. Fairs held were as follows:

Class "A"—Calgary.

Class "B"—Lloydminster, Red Deer, Vegreville and Vermilion.

Class "C"—Benalto, Didsbury, Falher-Donnelly and Girouxville, Lousana, Olds, Priddis-Millarville, Warspite-Waskatenau, Wildwood and Willingdon.

Entries in the 1944 fairs were about 30% below those of 1943, but attendance reached all time highs in many cases. Lack of labour and restrictions of various types accounted for the decline in entries.

Boys' camps, after several years of inactivity, were renewed at all "B" Class fairs in 1944. The response to these junior activities was satisfactory.

The Department continued its policy of assisting fairs on the same basis as in former years, and gave some assistance as well to the junior camps.

It is confidently expected that a permanent fair policy will be drafted in 1945. The fair boards are anxious that such action take place, and it is desirable that necessary changes be made before the post-war era begins.

Consultative Committee on Agricultural Services.

One meeting of the Consultative Committee on Agricultural Services was held on October 31st of this year.

At this meeting the record of the Farm for Victory programme was examined. In view of the fact that the end of the war seemed

to be nearing, the committee suggested that the term Farm for Victory no longer seemed appropriate, and recommended that a change be considered. It was also suggested that the zone organization adopted in 1943 be changed to one on a municipal basis. A sub-committee was appointed to study these proposals.

Other matters discussed by the committee included Veterinary Services, Priorities in Agricultural Reconstruction, and Co-operation with the Department of Veterans' affairs.

Dominion-Provincial Farm Labour Programme.

The co-operative Dominion-Provincial Farm Labour Programme continued throughout 1944. The agreement signed and effective April 1st, 1944, for twelve months, was in nearly all respects identical with that of 1943. It provided for the recruiting, transportation and placement of labour for agriculture. The Dominion-Provincial Farm Labour Committee gave general direction to the programme, while the staff of the Extension Service carried out the various policies. The District Agriculturists were the mainstay of the programme; they were assisted during the harvest period by about 195 local labour representatives. Throughout the year the members of the Local Farm for Victory Committees gave valuable aid as well. Some of the main activities undertaken were:

1. *Placement of Labour.*—The Farm Labour Service received orders for 4,505 farm workers during the year, and 6,255 were placed; the difference represents the harvest labour for whom applications were not required. Throughout the summer there was a continuous demand for, and transfer of, farm help, but at no time did the situation become acute, although some farmers could not secure suitable men. The class of labour available for casual work was frequently unsuitable, because the good men had permanent jobs. It is believed that through better organization of their operations and a greater use of machinery and labour saving methods, farmers cut down the need for men. As a result of the short crop of 1943 in the south many farmers disposed of their hogs, and thus reduced the need for extra help.

Several specific movements of labour must be mentioned:

Ontario Harvesters.—Between the 20th of June and the 10th of July, 97 Alberta farmers were sent to Ontario to help with haying and with the harvest of early crops. These men returned by August 31st. They received transportation to the East and obtained a return ticket for \$5.00. The District Agriculturists selected the men who were sent.

B.C. Fruit Workers.—The B.C. Farm Labour Service requested assistance from the prairies in 1944. From June 20th to July 10th approximately 110 women and girls were sent forward to B.C. points. This labour was given transportation to destination, return fare for \$5.00, and was allowed to remain in B.C. until October 31st.

Eastern Harvesters.—During the first two weeks of September, 1,584 Eastern harvesters, mostly from Ontario points, arrived in Alberta. Later on, during the first ten days of October about 600 additional men arrived from Manitoba and Saskatchewan, having completed harvest in those provinces. All of this help received, was quite satisfactory.

Assistance from Armed Forces.—The second largest form of harvest help came from the Armed Services. Harvest leave for

members of the R.C.A. and R.C.A.F. totalled about 1,300. In addition to this assistance, 322 farm duty soldiers were made available for the harvest. The farm duty soldiers were men with more farm experience than those of 1943, and were considerably more satisfactory.

A group of 112 Naval personnel was given one month's leave to assist with the harvest.

Much assistance was also given by men from training centres who spent week-end leaves on adjacent farms stooking and harvesting. Commanding officers were most co-operative in assisting to utilize this source of help.

Local Harvest Help.—After they had finished their own harvest, 305 harvesters from Southern Alberta and 160 from the Peace River were moved into the central part of the Province.

Besides this assistance, an undetermined number of city and town people, students and others took holidays at harvest time, or aided friends and relatives during this season.

Prisoners-of-War.—A group of No. 2 German prisoners-of-war, comprising about 250 men, worked on farms in the Brooks district all year. These men have given satisfactory service. A similar group of 100 prisoners-of-war have been employed in the Strathmore district since midsummer. The services of these men have been generally satisfactory as well.

At Lethbridge, No. 1 prisoners-of-war were used in the production of sugar beets. These men work under guard and are returned to the Internment Camp at night. About 800 prisoners were used at Lethbridge during the peak of the season.

2. *Labour Saving Devices.*—The Department continued to give encouragement in the use of labour saving devices. Additional stook sweeps were constructed by farmers, and a wider use was made of self-feeders, etc.

3. *Movement of Harvesting Equipment.*—Assistance in transportation was given again to move harvesting units from short crop areas to districts where crops were heavier. This assistance was provided from the funds of the Dominion-Provincial Agreement. Twenty-two outfits were moved. Actual freight or trucking charges, or 30c per mile, were paid on moves of fifty miles or over. One-way transportation only was provided.

4. *War Mobilization Board.* — Making investigations for the Mobilization Board of the farm operations of men who apply for postponement is one of the main duties assumed under the Dominion-Provincial Agreement. During the year, 3,882 investigations were made by the District Agriculturists. This figure also includes a number of investigations of men in the Forces who applied for extended leave or discharge from service.

Another phase of the investigational work is that relating to conscientious objectors. At the request of the Alternative Service Officer, the farming operations of 268 conscientious objectors were reported. District Agriculturists have also assisted the Alternative Service Officer in placing conscientious objectors in essential agricultural employment.

5. *Recruiting Campaign.*—When harvest ended the organization to place men on farms was put in reverse action in an endeavour to recruit men, who were not essential to agriculture during the winter

months, for other essential employment. By December 31st, it was estimated that about 4,000 farm workers took employment in other essential industries, such as logging, mining, meat packing, etc. It might be observed in passing that during the spring months of 1944 considerable effort was expended by the Dominion-Provincial Farm Labour Service to secure men for packing plants to replace the farm workers who went back to their farms in April.

6. *Publicity*.—Advertising, press articles, posters and radio talks were prepared and distributed during the year in the interests of policies operated under the Dominion-Provincial Farm Labour Agreement. Sixteen radio talks on the “Help Wanted” programme were given, as well as a number of spot announcements and news items.

WOMEN'S EXTENSION SERVICE

The most important development in Women's Extension work in 1944 was the appointment of four more District Home Economists.

Miss Norma J. Hogg was appointed to the Calgary office May 2nd, Miss LaPrile Low to Lethbridge May 17th, Miss Edna Virginia Alford to Red Deer July 10th, and Miss Rose Faryna to Willingdon on July 13th. These appointments bring to five the permanent staff of District Home Economists. In addition to these workers, three women of the School of Agriculture staff were employed on a temporary basis for the summer months.

The increase in the number of field workers permitted the women's work to be conducted more intensively and with greater effect.

The Women's Division has co-operated with a number of organizations during the year. The District Home Economists did a great deal of very useful work in association with the nurses of the health units. A programme of Hot School Lunches was undertaken in the fall of the year in co-operation with the boards of several school units. Several “Nutrition Weeks” were organized by local nutrition councils, in which representatives of this branch participated.

A special effort was made to interest women in the extension services during the winter. Heretofore the work was carried on in the summer only, and women required to be educated to the fact that the present service is a year round programme.

Girls' club work has been increased, and is more effective because of the greater supervision given by the larger staff.

Transportation is the greatest deterrent to the extension work. About 40% of the time of the District Home Economist is spent in non-productive travel. At the earliest possible date cars should be provided. It will also be necessary to secure women with special training in sewing, nutrition, home improvement, etc., to assist the District Home Economists with their many problems.

Greater attention must also be given to planned programmes for women's groups and to organizing local groups to carry on certain local functions.

The main activities of this service are as follows:

Demonstrations.

A total of 557 demonstrations were held in 1944, at which the estimated attendance was 19,317. Besides this, there were 77 meetings, field days, fairs and other gatherings attended. The main topics presented at these meetings were as follows:

Foods:

1. What's New in Home Canning for 1944?
2. Modern Trends in Foods.

Sewing:

1. Dress Finishes and Trimmings.
2. Advanced Sewing.
3. Remodelling Clothing.
4. Glove-making.

Miscellaneous:

1. Do Your Own Decorating.
2. Labour Saving Devices and Kitchen Cupboards.
3. Home Methods of Dry-Cleaning, Pressing and Stain Removal.

Correspondence Courses.

Correspondence courses were continued until the spring of 1944, but were not offered again in the fall. They were replaced by a programme known as "Homemakers' Clinics," in which women were invited to bring their problems to meetings for solution, instruction and information. The response to the Homemakers' Clinic was most encouraging.

Publications.

One new leaflet, "Food After 50," was published in 1944, and eight leaflets were mimeographed on the following subjects: Short Cuts in Sewing, Mending Hints, Kitchen Cupboards, How to Sprout Soybeans, How to Make a Judy, Home Drying of Fruits and Vegetables, Sour Cream Recipes, Correct Procedure—Conduct of a Meeting.

In addition to the publication of these topical bulletins, many articles were contributed to Agricultural Notes for distribution to the press.

It is estimated that approximately 62,000 bulletins and leaflets were distributed by this Branch during 1944.

Radio.

The radio was used to considerable extent during 1944 to disseminate information in home economics. During the year, 28 talks were given on the Alberta Farm and Home Programme by the staff. Throughout the year, short items were prepared for the radio section of the Agricultural Notes as well. It has been suggested that a much greater use should be made of the radio for distributing timely information. Since women are confined to their homes to a greater extent than the menfolk, there is a possibility that the radio would be more useful to them than to the men.

Girls' Clubs.

The Girls' Club term begins October 1st, with the exception of the Garden Clubs, which work throughout the summer. During the winter of 1943-44 there were 56 Girls' Clubs with a membership of 791, and during the winter of 1944-45 the number of these clubs had increased to 71 with a membership of 1,100 girls. In addition to these clubs, there were in 1944, 14 Girls' Garden Clubs with a membership of 190 in operation; these are sponsored jointly by the Department and the Alberta Wheat Pool.

The projects available for Girls' clubs are: Sewing, 1st and 2nd year; How to be Well Groomed and Well Dressed, Home Decoration, Home Management; and two new projects have been prepared, Meals Up-to-Date and Etiquette. A second year gardening project is planned for the spring.

While the Girls' Club programme provides valuable training in any district, urban or rural, it is of particular value to rural girls. These courses are helping the woman of tomorrow to develop higher ideals and standards of homemaking and habits of healthful, happy living, making them realize their responsibilities to their families, their communities and their country. Special attention is being given to developing co-operation and leadership and an active interest in community plans.

In districts where there are District Home Economists the Girls' Clubs have the added advantage of their supervision.

Lack of leadership in the districts is still the greatest drawback in this work. An attempt to assist leaders of Girls' Clubs is being made this term by meetings of groups of leaders with the District Home Economist and the Supervisor of Girls' Clubs.

Girls' Club Week was held July 24th to 29th at the Olds School of Agriculture, attended by 36 efficiency winners from last term's clubs. An interesting and instructive programme of lectures, demonstrations, sports and social activities was planned. Displays of handicraft work and sewing done during the term showed the scope of work covered, and offered an opportunity for the exchange of ideas.

This Girls' Club Week was held in co-operation with the Women's Institute Clubs, which sent delegates to attend their regular convention at this time.

The Girls' Clubs are encouraged to participate in their district Junior Club field days, where interclub competitions, sports and social activities are featured.

A \$75.00 scholarship to attend the Olds School of Agriculture, from the Wheat Board Moneys, was won by the most efficient girl.

The project material is also available to all other Girls' Clubs interested. Several Women's Institute Girls' Clubs and C.G.I.T. groups have been provided study material and had supervision of their work from this Department.

Miss M. K. Fraser, Supervisor of Girls' Clubs, was granted leave of absence for six months beginning November 1st. To carry on her work, Miss Elizabeth Freeborn was employed.

District Home Economists.

Permanent—Calgary, Miss Norma J. Hogg; Lethbridge, Miss LaPrile Low; Red Deer, Miss Edna V. Alford; Stettler, Miss Esther Anderson; Willingdon, Miss Rose Faryna.

Temporary—Grande Prairie, Miss Helen Moseson; Olds, Miss E. M. Switzer; Vermilion, Miss F. C. McIntyre.

As indicated previously, only one District Home Economist was employed for the full year. The four girls appointed to the permanent staff began work during the first part of the summer, and the temporary District Home Economists from the School of Agriculture at Olds worked from May to September.

The District Home Economists report a busy season, and state that much of their time was spent in acquainting women with the services available from their offices. Every District Home Economist mentions the lack of transportation as a serious deterrent to more effective work. The reports indicate that the service is appreciated by the women in their districts, but the area each worker

covers is too large for best results. Several districts have requested the services of a District Home Economist. It would appear that this service has been sufficiently tested in former years and appreciated during the past two years to warrant it being expanded as rapidly as circumstances permit. Since agriculture in Alberta is entering an era of improvement in contrast to one of extensive development in the past, the place of the farm home is likely to be much greater in the plans of every family than it has been.

Demonstrations are the most popular extension method employed by the Home Economist during the year. However, in addition to this type of gathering they attend field days, short courses, fairs, conventions and other meetings. Surveys have indicated that the demonstration is one of the most valuable methods of distributing information in home economics.

Home visits were conducted by all District Home Economists. Some of the Home Economists point out the practical value of such contacts, but the lack of adequate transportation facilities limits the number of homes that can be visited.

Office calls were fairly numerous considering the age of this service and the fact that many women have not yet learned of the facilities available. Some offices, due to location and ease of contact, were utilized far more than others. One District Home Economist mentions the need for more suitable office accommodation.

Many contacts were made by telephone, letter, bulletin, and by other means. These contacts extended the influence of the District Home Economists and proved of value to the public.

A School Lunch programme was begun by the District Home Economists in the fall of the year. School boards in large units were given assistance in organizing to provide hot school lunches in certain schools. The general response to this project has been excellent. Besides providing a hot school lunch for the children, valuable contacts have been made with parents.

Homemakers' Clinics were begun in the fall of the year, and several of the District Home Economists state that the response to this project has been quite satisfactory. The Homemakers' Clinic is a new extension method which has not been attempted previously in this Province. The clinics being conducted by the District Home Economists in the field are supplemented to a certain extent by radio Homemakers' Clinics under the Farm and Home Forum programme.

The District Home Economists supervise Girls' Clubs within their districts, and provide the instruction in the various projects being studied. The District Home Economists report that the contacts through the Girls' Clubs have been particularly beneficial. The general opinion favours an increase in the number of clubs, and more adequate rewards to the winners. Several economists mentioned the need for leaders for the clubs and for proper leadership training.

As the work of the District Home Economist develops, as the women come to learn of the services and the economists themselves get to understand the problems of their districts, the contribution to be made by this service will be very greatly enhanced. There is every indication that the home and the problems connected with it are receiving much greater attention than at any time in the

past, and as has been stated previously, it is likely that this trend will continue into the post-war years. With such developments in the offing, the services of a District Home Economist will be indispensable to the women who have come to know this service.

SUMMARY OF ACTIVITIES OF THIS BRANCH

	1940	1941	1942	1943	1944
No. of demonstrations	282	242	268	461	557
Attendance	7,235	6,292	8,272	14,454	19,317
Average attendance	25.6	26	31	31.4	34.6
Field Days and Short Courses	44	24	28	33	57
Judges and Fairs	15	13	6	9	20
Radio Talks	13	4	5	10	28
Publications distributed			26,850	45,105	62,000
Letters requesting information			1,700	1,855	1,786
Home Visits		188	135	267	621
Girls' Clubs	49	70	83	85	85

District Agriculturists.

The District Agriculturist staff was increased from 28 to 30 men in 1944. A new office was opened at Medicine Hat, and an assistant was appointed to the office in Lethbridge.

Another development in the District Agriculturist Service was the appointment of W. S. Scarth, District Agriculturist at Grande Prairie, as Supervisor of District Agriculturists. The duties of this official are to give closer supervision to the needs of the District Agriculturists.

The District Agriculturist Service had a very busy year in 1944. As was pointed out earlier in this report, the responsibilities imposed by the Dominion-Provincial Farm Labour Agreement, restrictions on travel and wartime production problems, have affected the regular extension work performed by the District Agriculturists. It is apparent that notwithstanding a decline in some activities in 1944, the service given by the District Agriculturists met specific problems of farmers and thereby contributed to the main function of Canada's agriculture—the production of food for the nation's war effort.

The District Agriculturist is faced with great responsibility in advising farmers how to make the greatest contribution to the nation's food supply, and at the same time safeguarding their resources for the years to come. The long time situation as well as the immediate needs must be considered.

Mention has already been made of the closer relationship which is developing between the District Agriculturist and the municipality. It is believed that as municipal government assumes greater responsibility in local agricultural problems, the District Agriculturist can become even more effective than at the present time. This trend toward the solution of local problems by the people of the locality is most gratifying.

The following staff changes are reported for 1944:

W. S. Scarth, appointed March 1st as Supervisor of District Agriculturists.

J. T. Stranatka, appointed to succeed W. S. Scarth as District Agriculturist at Grande Prairie, March 17th.

N. F. Bell, appointed as District Agriculturist for the Drumheller office to replace J. F. Carmichael, who was transferred to Lethbridge as Assistant District Agriculturist, April 24th.

J. W. Taylor, appointed as District Agriculturist at Medicine Hat, May 17th.

L. Gareau, appointed as District Agriculturist for Falher, October 18th, to replace E. Hebert, who resigned on October 31st.

The following table summarizes the services rendered by the District Agriculturists in 1944. This table does not include the activities of the District Agriculturists under the Dominion-Provincial Farm Labour Agreement:

	1942	1943	1944
Number of Offices	19	27	28
Number of District Agriculturists	19	28	30
Number of Meetings held	994	1,224	1,200
Total Attendance	47,965	49,979	58,400
Average Attendance	48	41	49
Number of Farms Visited	11,939	17,111	17,850
Number of Office Interviews	11,120	22,971	33,898
Number of Letters Written	15,697	30,688	35,105
Number of Bulletins Distributed	37,796	89,428	62,071
Number of Telephone Calls	10,104	18,487	26,556

REPORT OF DISTRICT AGRICULTURISTS

(W. S. SCARTH, *Supervisor*)

Athabasca—G. L. Godel.

Main programmes of this office are concerned with establishment of better forage crops, particularly legumes and the improvement of live stock, particularly cattle. It is planned to bring the latter about through establishment of purebred sire areas, assistance to selected farmers to keep pure-bred stock, and testing of all cattle for tuberculosis and Bang's disease.

The 1944 hog marketings showed a 15% drop in an average over the district. Wheat acreage increased in 1944, with further increases expected in 1945.

Alfalfa seed yields were disappointing, average yields estimated at less than 100 lbs. per acre. This district is the largest shipper of sweet clover seed in Canada, the estimate being that 24 carloads were shipped during the year, averaging 9c per pound for No. 1 seed.

Under the Forage Seed Policy, the following totals of forage were distributed since 1942: 1942, 10,986 lbs.; 1943, 25,080 lbs.; 1944, 16,580 lbs.

The bulk of this was alfalfa. The variety Early Blue peas is becoming popular, and 11 lots distributed yielded well this year.

Under the Bull Exchange Policy, nine bulls were placed. Ten new clubs under the Dominion Loan Policy were organized this year, north of the river. Seven boars were placed under the Improvement Policy, and six other boars through this office. Hog marketings show an increase in Grades A and B from 76.4% in 1943 to 80.3% in 1944.

Dairying appears to be holding its own, the labour situation preventing necessary improvement in breeding stock. While the quality of turkeys improved this year, other classes of poultry showed a decline.

A District Beekeepers' Association is in the process of organization. The 1944 honey crop averaged well above last year with good quality.

Two Junior Oat Clubs are operating, using Legacy oats, at Richmond Park and Plamondon.

Farm labour continued to require much time and organization. Early in November, 700 rejects or postponees were interviewed as to their essentiality to farm production, and many of these were directed to essential winter employment in local lumber camps and saw-mills. For farm postponement, 171 investigations were completed. No eastern harvesters were used in the district.

Bentley—A. W. Lampitt.

Apart from excess moisture in the early part of the summer, 1944 was almost an ideal season. It is estimated that there was a general increase in wheat acreage. Demonstration plots were established to provide opportunities to study different varieties of cereal and forage crops. Fertilizer demonstrations aroused considerable interest in the gray soil areas. There is a strong indication of many farmers going back growing Garnet wheat. The main forage crops continue to be alfalfa, brome and timothy. Under the Forage Crop Policy, 27,150 lbs. of seed were distributed, and of this amount 9,000 lbs. were alfalfa. Very little forage seed is produced for sale.

Weeds are increasing, particularly wild oats. This office co-operated with a Municipal Weed Control Board, which is planning a programme of weed control work.

Three bulls were placed through the Exchange Policy and eight through office arrangements. As we have many local pure-bred breeders, the assistance policies are not so necessary here as in some other districts. Sixteen pure-bred boars were placed through the Policy, also 25 pure-bred sows. There is one feeder association operating in the district. Live stock marketings are well up, and there has been a good market for all breeding stock.

Dairying fills an important place in this district, there being six creameries in operation. A large amount of milk goes to the Red Deer condensory. The creameries also handle large quantities of dressed poultry and eggs.

There are two grain clubs, three calf clubs and two forage crop clubs organized, with a total membership of 102.

Eastern harvesters were used to some extent this fall, also farm duty soldiers. There have been 155 investigations made on applications for farm postponement and 220 reports on rejects.

Berwyn—O. G. Bratvold.

While the past season has been unusually dry, nevertheless crop yields were estimated at 18 bushels for wheat, 30 for oats, and 20 for barley. The prolonged dry spell greatly aggravated the shortage of water supply, and this office devoted considerable time to advising farmers on dug-out excavation. Approximately 150 reservoirs were constructed this season. Private contractors undertook the work, and will continue the programme next year.

Soil erosion becomes an increasing menace, with comparatively few farmers realizing the danger, but the better operators are now awake to the problem and taking steps to deal with it.

Pure seed production is increasing, as farmers realize the possibilities and the advantage of having comparatively clean land. Ten carloads of Certified and No. 1 seed oats were shipped to outside points. Three seed cleaners are in operation at Fairview, Gage and Berwyn.

Winter wheat acreage is increasing, with Kharkov the standard variety. Favourable price premiums over spring wheat encouraged many to sow winter wheat.

There is a steady increase in forage crop acreages, with alfalfa, sweet clover and brome predominant. More interest is shown in forage seed production on the gray soils. This is the first year forage seed was distributed through the District Agriculturist's office under the Forage Policy. A total of 9,740 lbs. was handled under this plan. Some acreages of field peas were established, but spring cutworm damage cut down yields. Stinkweed presents the most serious weed problem at present. Yellow mustard was reported for the first time this year.

Live stock suffered from poor summer pasture due to dry conditions. Four bulls were placed under the Exchange Policy, and assistance was given in placing 18 other bulls. Four boars came in under the Improvement Policy, and six others were placed through this office. All indications point to a considerable reduction in swine population.

Poultry production is on the increase, with very few reports of disease. Local beekeepers had a very good season in 1944. Registrations show 253 beekeepers in the district. Local demand uses up all surplus honey.

There is one Junior Oat Club and one Beef Calf Club in operation, with total membership of 33. Club work is just getting started in this area.

Labour problems are not serious, but many farmers have been forced to reduce production due to seasonal shortages. Seventy-one investigations were made on applications for farm postponement and 193 rejects were investigated.

Brooks—Ira Lapp.

The production year was marked by the most damaging hailstorms in the history of the area, the damage being concentrated in the Tilley, Antelope Creek and Millicent Flats area. Outside of the hailed area, cereal crops yielded better than last year. An important industry is shipping of alfalfa hay to British Columbia, and large amounts are also trucked to Lethbridge and other Alberta points. The bulk of the alfalfa seed is handled by the Grimm Alfalfa Seed Company.

There was an increased acreage in potatoes, with good yields reported. The pea acreage has also increased, with commercial firms building storage capacity in Brooks. There is a considerable area of radish and onion seed being grown under contract. Estimated total of small seed production was 60,000 pounds, including radishes, onions, spinach, beets, carrots, turnips and cabbage.

Weeds continue to be a very serious problem, due to the extensive ditch and canal systems. An extensive programme of seeding ditch banks to grass is being undertaken.

Eight bulls were placed through the Exchange Policy, and seven others through this office. Six boars and five sows were procured through the Swine Policy. Over 1,000 head of horses were shipped from the district for slaughter in the United States. Three Feeder Associations reported 12,000 lambs on feed and 8,000 more are estimated in private feed lots. Two sales of finished and feeder cattle were sponsored in October and November by the Eastern

Irrigation District. It is estimated that 17,000 cattle were sprayed for warble fly control in the spring campaign.

Dairying continues an important source of revenue, with some good herds established in the district. A creamery operates at Bassano and a cheese factory at Rosemary.

There was an increase of 50% in banded turkeys over last year, with Mr. V. Hallman of Brooks operating the only turkey hatchery in Western Canada.

This was a poor season for bees, with total honey production about one-half of last year.

There is one Oat Club (15 members), five Beef Clubs (90 members), and one Dairy Club (33 members). There are also three Girls' Garden Clubs operating. The Calf Club Show and Sale was very satisfactory this year.

A total of 250 prisoners-of-war worked on farms in the E.I.D. during the summer, and it is estimated that over 100 of these men will stay on farms during the winter. There were 130 investigations made on applications for farm postponement.

Calgary—B. J. Whitbread.

The production changes were mainly an increase in cattle and decrease in hogs. There was a favourable growing season with excellent harvesting weather. Wheat yields on fallow ran from 25 to 40, stubble 15 to 25, oats on fallow 45 to 80, and barley 35 to 70.

There is a general increase in interest in forage crops, with favoured varieties being brome, crested wheat grass and alfalfa. Under the Departmental Forage Policy, 4,000 pounds of forage seed were distributed.

Weeds continue to be a problem, and wild oats were particularly bad this year. Hoary cress continues to be a very serious problem. Shortage of labour aggravated the difficulty of carrying on effective control measures.

Sawfly was troublesome in the eastern part of the district, damage varying from 5% to 25%.

Live stock feed supplies are adequate. Many purchases of pure-bred bulls were assisted through the office, with five bulls placed through our Exchange Policy. The Calgary Spring and Fall Sales provide a ready means of local breeders purchasing and disposing of pure-bred stock.

Indications are that there is an increase in cattle on feed. The cover crop is now being used extensively for fall feeding. Ranchers are now adopting warble fly control as a standard practice.

Junior clubs continue to be active. There are two Wheat Clubs, one Oat Club, and one Barley Club, with a total membership of 59. There are six Beef Clubs with a total membership of 120, and two Dairy Clubs with a membership of 30.

Most of the farm labour distribution was handled by the National Selective Service office in Calgary. There were 150 investigations made on farm postponement applications.

Special mention should be made of the Agricultural Service Board set up this year in the M.D. of Conrich. The purpose of the Board was to suggest ways and means of attacking local farm problems. Monthly meetings were held, and many farmers who were having special difficulties were interviewed by a municipal

fieldman accompanied by the District Agriculturist. Further plans for weed control programmes are being worked out for 1945.

Camrose—J. L. Kerns.

Pronounced changes in this district are that fewer sows are being bred for fall litters, more farm land is being sold, and that the combine is being used to a great extent in harvesting operations.

There appears to be a general increase in acreage prepared for wheat in 1945. Yields this year averaged: wheat 25 bushels, oats 65, barley 40. General demand for Thatcher wheat and Eagle oats. Several carloads of commercial seed oats were shipped in the early spring.

Dairying shows a definite increase, necessitating more forage crops. Alfalfa, sweet clover, brome and crested wheat lead in popularity. The Alberta Seed Growers' Association cleaning plant distributes large quantities of seed in this district. Large amounts of brome seed are produced locally. Early blue peas yielded from 15 to 30 bushels; other varieties were not so successful.

Weeds appear to be increasing, the most important being Canada thistle, wild oats, couch grass and wild mustard. There are reports of hoary cress and leafy spurge in the district. Weed inspection service is not yet organized on a satisfactory basis.

Live stock feed supplies are excellent. Fifteen bulls were placed under the Exchange Policy, and assistance given in placing 50 others. Four boars came in under the Improvement Policy, and six others were placed through office contacts. One feeder association is in operation.

Dairying is an important industry in the Camrose area, and it is estimated that six or seven new dairy bulls come in every year for local herds. There are six creameries and one cheese factory in operation.

A great increase was noted in the number of baby chicks ordered this spring. While turkeys may be increased next year, the uncertainty of poultry markets will likely cause drastic curtailments in poultry production generally. A number of local flocks are being blood tested.

Beekeepers had a fair season, with good production reported. Local demand absorbs the bulk of the honey crop.

Junior clubs operating consist of one Oat Club with membership of 15, one Dairy Club with membership of 15, and three Swine Clubs with total membership of 45. A Dairy Club team was sent down to Toronto in the Junior Farm Club competition.

It is estimated that 300 harvesters were placed through this office, and this fall 30 men have been recruited for winter industries. There were 200 investigations made on farm postponement applications, and approximately 250 rejects were investigated.

Cardston—W. R. Hanson.

During the war years there has been a marked tendency toward the use of land for live stock production rather than for wheat. More land has been seeded to forage crops, and a large acreage of summer fallow carries cover crop for fall pasture.

Grain crops in the district were generally light. The foothills area averaged 20 bushels for wheat, while the district east of Warner would average four bushels. There has been a definite

decrease in coarse grain. Red Bobs and Marquis continue as the popular wheat varieties, but this year saw a definite increase in acreage sown to Canus. There is a lack of quality in the general class of seed sown, and few growers of pure seed.

The foothills area shows increased interest in forage crops, but the dry season further east made yields of both native and cultivated grasses quite light. Under the Forage Seed Policy, a total of 12,979 pounds of seed was distributed. Alfalfa predominated in this distribution, followed by crested wheat and brome grass.

Sugar beets are the major cash crop in the Magrath and Raymond irrigation block. Yields were fair to good, 11.7 tons per acre as compared with 10.2 in 1943. The potato crop was light to fair.

The weed situation continues to be serious. The present system of weed inspection does not appear effective in keeping pace with the spread of weeds. A reorganization of the weed control programme to co-ordinate it with a soil conservation policy is recommended. In the irrigation sections a plan is now under way in co-operation with the P.F.R.A. to seed down ditch banks to crested wheat grass.

It is noted that bacterial wilt is causing losses in alfalfa stands. A series of winter meetings were arranged in the sawfly area, and as a result control blocks were set up east of Milk River and New Dayton, with a field day at the Milk River block. The Columbia ground squirrel of the foothill area continues to be a pest in alfalfa fields.

The warble fly campaign started in 1943 was continued, and plans were made to set up a warble free area in the south-west corner of the Province. In co-operation with the P.F.R.A. power sprayers were secured and local committees set up. The total number of cattle in the area was estimated at 55,000 head, and the approximate number treated with the power sprayers was 43,460. It is estimated that an additional 5,000 were treated by hand.

Live stock production is considerably above 1943 levels, and there are indications of overstocking on some range lands. Swine production has decreased, with estimates of 50% fewer brood sows than last year.

The Community Auction Sales, a co-operative body operated by stockmen, has been a major factor in improving cattle marketing in this area. This year they held 27 community sales and disposed of a total of 13,904 head of cattle.

Junior club work continues an active programme. There are two Calf Clubs, two Turkey Clubs and two Crop Clubs with a total membership of 98.

Drumheller—N. F. Bell.

The 1944 crop season started very dry following a light snowfall during the winter. Rainfall during the growing season ranged from 8.9 inches to 12.6, and wheat yields varied from four bushels in the Wayne district to 50 bushels in the Munson-Morrin area.

There are 12 registered seed growers in the district reporting a total of 860 acres for inspection. Junior Seed Clubs have been instrumental in multiplying and distributing pure seed to many farms.

Brome remains the most popular forage crop, although crested wheat is favoured in lighter soil areas. Alfalfa is concentrated in

the irrigated sections near Rockyford. There is need for more knowledge regarding alfalfa as a forage crop. There have been some excellent yields of crested wheat grass seed. A total of 5,325 pounds of forage seed was distributed under the Forage Policy.

Wild oats and stinkweed are the commonest problems on the average farm, but in 1944 wild oats were considered the worst in years. Grasshoppers damaged some districts, and sawfly damage was more evident than last year.

Some pastures during the season with light hay crops necessitated the movement of live stock to other feeding grounds. There are several good herds of pure-bred cattle and swine established in the district, and these supply the bulk of local requirements.

The largest dairy industry in the district is at the Linden Cheese Factory, which manufactures a large quantity of cheese each year. Dairy herds are generally confined to supplying fluid milk to the towns.

There are four Junior Wheat Clubs in operation in the district, with a total membership of 71.

The Avondale Calf Club, under the leadership of W. D. McDonald, had a very successful season. All Junior clubs have been reorganized for the 1945 programme.

Eastern harvesters placed numbered 167, and 21 soldier harvesters were also placed through this office. Agricultural applications for postponement to the number of 103 were reported on, and approximately 100 rejects were investigated as to their essentiality to the farm.

Edmonton—F. N. Miller.

The crop yields in the Edmonton district were generally satisfactory. This district indicates a trend to decrease swine production and a slight increase in wheat acreage.

Under the Exchange Policy, 16 bulls were placed through this office and assistance given in placing four other bulls. Six pure-bred boars were placed under the Improvement Policy, and seven others through office contacts. Considerable interest was shown by local farmers in securing better breeding stock. This office was able to give assistance to farmers with disease problems in co-operation with the animal pathology laboratory.

The dairy industry is very important in the Edmonton area, and assistance has been given in securing breeding stock and also with dairy barn plans.

The Beaumont district has become known as an outstanding poultry production area, and many large flocks are established in this community.

We were able to assist a number of farmers to secure their requirements of pure seed. There was a general shortage of good seed this spring. Olli and Newal are popular barley varieties, while there is a steady demand for Eagle oats due to the stronger straw of this variety. There was an increase in the acreage sown to peas. Most of this acreage was under contract to the Grimm Alfalfa Seed Growers at Brooks. As many of the fields were weed infected, yields of peas were rather disappointing in the majority of cases.

Wild oats, wild mustard, sow thistle and Canada thistle can be considered as the most prevalent weeds in the district. More weed information on weeds was sought through bulletins and office interviews than ever before.

The offices of the municipal districts gave assistance in distribution of forage seed. In addition to the seed handled in this way, an additional 5,000 pounds was distributed through local seed agents operating under our Forage Crop Policy. Fertilizer demonstration plots were located at Stony Plain, Bon Accord and Namao.

There is particular interest in farm engineering as evidenced by good attendance at field days. Approximately 207 building plans were supplied from this office.

Junior clubs had a good season. Two Beef Calf Clubs had a very successful sale and show. Two club members won the Alberta Judging Championship and attended the final competitions in Toronto. There are two Malting Barley Clubs in operation and one Swine Club. Both these clubs were prize winners in Edmonton district judging competition.

The farm labour programme required a lot of time and effort during the year. There were 281 eastern harvesters distributed through this office. On farm applications for postponement, 230 investigations were made, 460 investigations on rejects and 15 investigations on conscientious objectors.

Falher—Laurent Gareau.

There is a trend in this district toward increased wheat acreage, which will be balanced by a corresponding reduction in coarse grains. While swine production will continue as a major source of revenue, there is no doubt that higher grain prices will reduce swine population.

Spring conditions were exceptionally dry following a winter of light snowfall, with the result that crop germinations were patchy and uneven. Scattered rains improved crops through the summer, but yields varied greatly. Wheat would average 14 to 20, oats 25 to 40, and barley 15 to 25.

Forage crops are increasingly important. This district is now accepting forage crops as a standard part of the farm rotation. Forage seed production is bringing in very important revenue to many farmers. A local unit of the Alberta Seed Growers' Association is organized to handle seed sales in this area, and this year handled the bulk of local seed. No seed cleaning plant is yet available, but as a start a number of small track warehouses have been erected at several shipping points. This facilitates temporary storage and provides a convenient means of loading and shipping. A total of 6,500 pounds of forage seed was distributed through the Encouragement Policy. It is very difficult to estimate seed yields this fall, but seed setting on alfalfa was quite patchy.

Interest continues in live stock raising, but the water supply is one factor that has forced many in this district to reduce their holdings.

The excavating equipment purchased for dug-out work last year operated throughout the season, and a number of excellent dug-outs were made.

Six bulls were placed under the Exchange Policy and six boars through the Swine Improvement Policy. This office assisted in making several exchanges of rams for local sheep breeders. It is encouraging to note the increased interest in improved breeding stock as evidenced by office enquiries and requests for advice on feeding and housing.

This office undertook a programme of encouraging a wider use of field inspected cereal seed. There are very few registered seed growers in this district, and it is hoped that the organization of a Seed Growers' Association will encourage more to go into this work.

Beekeeping is an important industry here. Conditions for production were good, and average hive production would be 175 pounds. It is estimated that we have 200 beekeepers with approximately 1,000 colonies. The Falher Beekeepers' Association handles local orders for package bees.

Farm labour is not a vital problem in this area. A number of men went to the Edmonton area for harvest after completing work at home. Investigations on applications for military postponement numbered 95, and 148 rejects were reported as to essentiality.

Grande Prairie—J. T. Stranatka.

There was very little reserve moisture in the spring, with the result that crop germination was patchy. As a result of a hot spell in July, coarse grains suffered severely.

Average yields are estimated for wheat 18 bushels, oats 31 bushels, barley 22 bushels, and flax 8 bushels. There was an increase in wheat acreage.

This district continues to be one of the largest cereal seed producing areas in the Province. Dominion seed inspection records indicate the following acreages were field inspected this year: Wheat, 537 acres; barley, 74 acres; oats, 7,189 acres; flax, 94 acres.

Forage crop seed production continues to increase. The South Wapiti area, specializing in alfalfa, reported yields averaging 200 pounds per acre. The following acreages were inspected for certification or registration: Brome grass, 2515; alfalfa, 865; creeping red fescue, 149.

Under the Forage Policy, 3,755 pounds of seed were distributed. Practically the entire district has now received benefits of forage seed at reduced prices by the use of the policy since 1937.

On many farms forage crops are being seeded as a weed control measure on land which cannot be handled due to labour shortage.

Pastures were poor on account of the dry season, and general water shortage forced some reduction in live stock. In the Spirit River-Rycroft area, 30 large reservoirs have been excavated this fall. Hay yields were poor. Six bulls were placed through the Bull Exchange Policy and eight others were placed through office contacts. Three boars were placed under the Improvement Policy and assistance was given in placing 12 other boars and six sows. The Grande Prairie Co-operative Live Stock Association figures indicated that 1944 hog marketings exceeded those of 1943 by 14%. The shortage of coarse grains will likely force a reduction in hogs in the coming year.

While dairying is not an important source of revenue, local creameries at Grande Prairie and Valhalla Center estimate that cream deliveries have increased by 10%.

Poultry production shows a general increase, and considerable interest is being shown by local poultry raisers in the prospect of having a local hatchery established at Grande Prairie.

There is a substantial increase in beekeepers. Late arrival of package bees was responsible for low yields in many cases because the season and weather were generally favourable. Two local beekeepers' associations have been formed.

Two Junior clubs operated, the Grande Prairie Grain Club and the Teepee Creek Forage Club. It is very difficult to keep up interest and membership due to war conditions.

Local labour was adequate to handle the harvest. Following early completion of harvest work in this district, 116 harvest workers were sent to the Edmonton area. There were 122 investigations made for postponement applicants, 28 for alternative service, and 166 rejects were checked on.

Hughenden—T. W. Townley-Smith.

A very dry windy spring was responsible for patchy crop germination. However, crops generally were better than average.

Wind and water erosion are still major factors in cutting down fertility, particularly in the Cadogan-Provost-Hayter area.

The most important forage crops are crested wheat, brome grass and alfalfa. More farmers are realizing that they must include forage crops in their rotation. A total of 8,475 pounds of forage seed was distributed under the Forage Policy, almost half of this amount being crested wheat.

Weed losses in 1944 were more general. The dry spring gave crops a set-back, but annual weeds thrived. Reports of dockage in commercial grain of 30% have been noted at many shipping points. Weed inspection is confined to check-ups on known patches of the four bad weeds and in response to complaints.

Sawfly damage was severe in areas south of Hayter and Provost. Few farmers are practising the trap stripping control.

Many summer pastures were grazed off during the winter, and with dry spring conditions the pasture situation became acute. Fall pastures were much better on account of July and August rains. Nine bulls were placed through the Departmental Policies, and four others through assistance from this office. Ten boars have been placed through office contacts and two under the Improvement Policy. Six orders for rams went through the Live Stock Branch, four others by local exchanges. One feeder association is operating in the Chauvin-Wainwright district. Live stock marketings are well above the 1943 average. Live stock diseases continue to take a heavy toll, with some serious hog losses from enteritis and septicemia.

In the southern part of the district dairying is an important source of farm revenue. Two creameries operate in the district, at Edgerton and Sedgewick.

Poultry production increased this year, and one point reported approximately 50% increase in marketings. There was a slight increase in the number of beekeepers.

Three Junior Beef Calf Clubs are operating with a total membership of 61. Shows and sales were quite satisfactory.

The farm labour situation continues to be critical. Harvest placements totalled 249, and additional help was secured from the military camp at Wainwright. Thirty-seven men were directed to essential winter work. Investigations for farm postponement totalled 170, and 182 rejects were also investigated.

Lethbridge—S. S. Graham and J. F. Carmichael.

The most outstanding change in this district has been the continued trend from hog production back to wheat production. Many dry land farmers who had used hogs to market surplus grain have now completely disposed of hog holdings.

The season of 1944 was abnormally dry, with a total precipitation of 13.37 inches to Dec. 15th, consequently moisture reserves are at a very low point.

There is an estimated increase in wheat acreage of 20% and marked reduction in coarse grains. It is encouraging to note that soil drifting has decreased due to the wider adoption of control practices. These consist partly of use of trash cover and also the use of the blade type weeder. Registered seed was in good demand, and local growers of field inspected stocks readily disposed of their supplies.

Alfalfa continues to be the most suitable forage crop, particularly in the irrigated section.

This year saw the largest acreage of sugar beets in the history of the industry with a total of 28,700 acres. This makes up one-half of the total sugar beet acreage in Canada. Yields were good, averaging 11.7 tons per acre. Labour appeared to be adequate for all necessary operations. While potato acreage was reduced from last year, the average yield was 4½ tons per acre compared with 1½ in 1943. Bacterial ring rot continues to be an acute problem to potato growers. Canning crops are growing into major proportion, and it is estimated that this industry is contributing over one million dollars to Lethbridge and district. This year 5,000 acres of irrigated land was devoted to the production of canning crops. In addition to this, 350 acres of potatoes, carrots, turnips, cabbage and beets were produced for dehydration. The Southern Alberta Co-operative Vegetable Growers' Association is taking the lead in putting quality vegetables on the market in this Province and other provinces as well.

Grasshoppers did considerable damage in the district this year. Municipalities were slow in preparing for supplies of bait, and considerable acreages were injured before bait was ready. The sawfly damage was serious on dry lands surrounding Lethbridge. A vigorous campaign was conducted during a series of district meetings and field days when Dominion entomologists demonstrated control measures. The sawfly trap remains the most effective control measure. The damage is much greater where strip farming is practiced.

Feed and pastures were short, and indications point to a reduction in live stock numbers. Another serious factor has been lack of water on range lands. On the other hand, there is an increase of live stock on the irrigated areas. Five bulls were placed through the Exchange Policy and assistance given in placing 10 others. In co-operation with the Dominion Department, 13 bulls were placed in the Vauxhall Community pasture. Three boars were placed

under the Improvement Policy and assistance given from this office in placing 15 other boars and 30 pure-bred sows. There is much less demand for swine breeding stock than last year. This office assisted in placing eight pure-bred rams. There is a slight decrease in sheep population.

It is estimated that 118,000 feeder lambs are in feed lots in this district, and 27,000 feeder cattle. A number of meetings were held in the early winter to encourage warble fly control, and a large number of cattle were treated.

The dairy industry continues to be a very important one in the Lethbridge district. Two cheese factories and three creameries are in operation. Creamery butter production and cheese production have suffered because of the more attractive prices for whole milk. This office assisted in placing five pure-bred dairy bulls and 25 dairy cows.

Poultry production has increased, egg production being estimated at 15% over 1943.

Honey production suffered due to extremely dry weather. Some beekeepers estimate only 40% of a normal honey crop.

There is one Junior Grain Club at Vauxhall with a membership of 19. The Lethbridge Beef Calf Club has 42 members. It is now following the group feeding project, 12 of its members each feeding five calves. Two new club projects were undertaken at Vauxhall, a Girls' Garden Club and a Potato Club.

This office spent considerable time on farm labour work, particularly in organizing prisoner-of-war and conscientious objector labour. There were 125 harvesters sent to northern Alberta. Thirty farm workers were directed to essential winter work. Approximately 500 investigations were made for the Mobilization Board.

Medicine Hat—J. W. Taylor.

This has been the second consecutive dry year in this district, with approximately nine inches of rainfall from April 1st to Sept. 15th. As a result, farmers and ranchers have been forced to reduce live stock holdings. Early fall rains helped out the water supply situation to some extent. Estimated average yields for the district were: Wheat, 5 bushels; barley, 10 bushels; oats, 12 bushels; flax was very poor.

Alfalfa and crested wheat grass are the principal forage crops of the district, alfalfa being confined to areas that can be flooded in the spring by the use of dykes. Under the Forage Policy, 1,000 pounds of crested wheat grass was distributed. Weeds do not present the problem here that they do in other areas, but field bindweed is giving a lot of trouble in irrigated fields along the Saskatchewan river.

Grasshoppers were general in the territory. A mixing station was set up at Foremost and bait also distributed from Bow Island, Medicine Hat, Irvine, Schuler and Manyberries. Sawfly damage is serious, losses at some points being as high as 60%. A control block was set up in the Bow Island area in co-operation with the Dominion entomologists at Lethbridge. It is hoped to extend this means of control by means of meetings and community organization.

Live stock numbers were considerably reduced due to feed shortage. It would appear that many areas have been overstocked

in past years. Ranchers are now planning to have a two or three year feed reserve on hand.

Three commercial feed lots are in operation at Medicine Hat, Irvine and Walsh, with approximately 1,000 head of cattle on feed. Generally speaking, cattle prices have been quite satisfactory. The services of a veterinarian are urgently needed in this district, as there have been some serious live stock losses reported.

The dairying industry is assuming greater importance, particularly in the area close to Medicine Hat. The demand is mainly for city supply, the prisoner-of-war camp, and the air training centre. There is one creamery in operation in the district.

There are four Junior Wheat Clubs in operation at Bow Island, Irvine, Schuler and Hilda, with a total membership of 83. The Bow Island Swine Club has a membership of 15. Teams from this club and the Grain Club entered the Provincial Judging competitions. Three Poultry Clubs are in operation, with a total membership of 48.

In co-operation with the National Selective Service, 340 farmers were issued permits for winter employment in essential work. These were absorbed in local industries. A total of 188 investigations were made for the Mobilization Board.

Olds—Hugh McPhail.

While early spring conditions were dry, there was an abnormal amount of moisture during the latter part of July and early August. Hail damage was scattered and less than average. General yields were high. The important forage crops are brome, timothy, alfalfa, red clover and sweet clover. Creeping red fescue is increasing in popularity, and there is a large increase in legumes on the gray wooded soils. Records show that 20,000 pounds of forage seed was supplied in this district through the Forage Crop Policy.

Weeds are a very serious problem in the Olds district, with Canada thistle, wild oats, couch grass and wild mustard the most prevalent.

Pastures were good throughout the season and feed supplies abundant. The assistance policies of the Department for live stock have not been taken advantage of, as there are many local breeders in the area. A considerable amount of breeding stock is supplied by the Olds Agricultural School. Two feeder associations are in operation at Olds and Carstairs.

There is increasing interest in dairying, and dairy men are expressing interest in the possibilities of artificial insemination. Five creameries and two cheese factories are in operation in the district. There was a large production of poultry this year, and more flocks have been blood-tested than ever before.

It is estimated that there were twice as many beekeepers as in 1943. This was a good honey season, and most of the product was marketed locally.

There are six Junior Grain Clubs in operation with a total membership of 91, three Beef Calf Clubs with membership of 60, three Dairy Clubs with membership of 61, one Swine Club with 21 members, and one Forage Crop Club with nine members. Junior teams took part in Provincial Judging contests.

This office placed 200 harvesters and about 200 more were placed by labour representatives. Mr. J. R. Boon assisted with

investigations on farm postponement, and 187 applications were investigated.

Ponoka—I. A. Coles.

Cool weather predominated most of the growing season and rainfall was plentiful. This resulted in good crops generally, but was very poor for haying. Indications are for a slight decrease in coarse grains and a corresponding increase in wheat.

Forage crops are increasing, with the commonest varieties being alfalfa, red clover, sweet clover, timothy and brome grass. In the gray soils to the west, red clover, alsike, alfalfa and timothy take the most important place. A large amount of forage seed was distributed through local agents, using the Department's Forage Seed Policy. The extremely wet season damaged many stands of promising forage seed, particularly in the district west of Winfield.

Farmers in this district have a serious problem of weed control. Surface cultivation, fall cultivation and forage crops are all being used as a means to combat weeds, but the shortage of farm labour is aggravating the situation immensely.

Feed supplies for live stock were plentiful, but haying weather was very poor. There appears to be an upward trend in beef cattle population, but hog marketings are below those of last year.

Due to higher prices for dairy products, the number of dairy cattle was kept fairly constant despite labour shortage. There are four creameries in operation, but considerable milk goes to condenseries and creameries outside the district.

It is estimated that poultry production was 15% higher than last year. While it is expected that this may be down next year, indications are that turkey production will remain on the same level.

A Beekeepers' Association was formed at Ponoka with a membership of 75. Honey production would be considered average.

One Junior Grain Club operated with a membership of 13. Two Beef Calf Clubs at Ponoka and Wetaskiwin have a combined membership of 50.

The farm labour situation appears to be better than last year. During the harvest season, 384 harvesters were placed in this district through the co-operation of local labour representatives and this office. Investigations into applications for farm postponement numbered 156, and a survey was also made of cases of 207 men rejected for military service.

Red Deer—J. E. Birdsall.

From the standpoint of grain crops the season was a very favourable one, with practically no frost damage and a fine open fall. The heaviest crop in many years was harvested.

Several privately owned seed cleaning plants are operating in the district, and two cleaners, at Dickson and Innisfail, are owned co-operatively. The Experimental Farm at Lacombe did a tremendous volume of cleaning both cereal and forage seed.

Sweet clover, brome, alfalfa and timothy are the main varieties of forage crop, and farmers are realizing the vital importance of these in their rotation. Forage seed distribution was carried on through the agencies supplied by nine creameries and three agricultural associations. A total of 64,935 pounds of forage seed was handled, the bulk of this being alfalfa, brome grass and sweet clover.

A limited amount of timothy, brome and creeping red fescue is produced.

Weeds are prevalent throughout the area, and wild oats are giving the most concern. Wild mustard has gained a foothold, and there are also spreading infestations of toad flax, leafy spurge and hoary cress. The Municipal District of Red Deer has adopted a permit system to regulate the cropping practices on badly infested lands. One man is in charge of weed control, employed ten months of the year. A system of test plots for weed control is being established, and a definite rotation is being worked out on these areas.

This has been a good year for live stock. Breeding stock is readily available in practically every part of this district, so few have taken advantage of Departmental assistance policies. The Central Alberta Live Stock Feeders' Association and the Olds Feeder Association continue to operate. The number of live stock on feed is below last year's figure. Prices for cattle marketed have been exceptionally good. Losses in swine continue to be too heavy, lung infections and enteritis being the main cause. Hemorrhagic septicemia in feeder cattle from stockyards also caused considerable loss. The number of cattle treated for warbles increased greatly over previous years.

This district receives a large revenue from dairying, but there is a shortage of good dairy sires. There are seven creameries operating and one cheese factory. Interest is growing in forming an artificial breeding club to make use of the laboratory at Olds.

Two Junior Grain Clubs growing Newal barley and Victory oats, with a total membership of 33, were in operation. The Ardley Swine Club has a membership of 16. The Beef Calf Clubs at Lacombe and Innisfail have a membership of 31 and 44 respectively. Club work is proving very satisfactory, with excellent local support. Judging teams were entered in the Provincial competitions.

Two machinery repair schools were operated at Lousana and Red Deer, and had a good attendance. A farm boys' camp was held in connection with the Red Deer Fair.

There is an acute shortage of farm help. Eastern harvesters placed number 230, and local harvesters 126. Investigations into farm postponements numbered 155, and approximately 480 cases of rejects were checked.

Ryley—W. A. Moisey.

This was a favourable year in the Ryley district. In co-operation with the Municipal District of Beaver an Agricultural Committee was set up and seven meetings were held. Noxious weed problems were investigated, and action taken to sign up this area under the tuberculosis restricted area plan.

Through the Department's Improvement Policies four boars were placed, three bulls and three rams. This office gave assistance in placing nine other boars, seven bulls and three rams. There were 17 cases of live stock diseases investigated through office contacts.

Dairying is an important source of revenue, particularly in the area adjacent to Ryley. Ten dairy herds are operating under the Cow Testing Service.

Twenty-four orders for pure seed were handled through this office, and a large number of contacts were made in the distribution

of forage crop seed. Two fertilizer demonstration plots were established.

Forty building plans were distributed and six visits made to farms in regard to plans.

During harvest, 185 harvesters were placed, and 31 farmers were directed to other essential winter work. During the year, 189 investigations were made on behalf of the Mobilization Board.

Eighteen community meetings were attended this year, when agricultural topics were discussed.

Sangudo—L. H. Peacock.

Coarse grain acreage was reduced due to excessive spring moisture and flooding in some areas. Wheat acreage appears to have increased.

Forage crop acreage is increasing with the realization by those on the gray soils that they must establish legumes if they are to build up any fertility. The main forage crops are alfalfa, red clover, alsike clover, timothy and brome grass. The alfalfa seed crop was quite small this year, no doubt due to adverse weather conditions.

Weeds are not as yet a serious problem. The effectiveness of weed control measures exercised by local inspectors is questionable.

It has been a favourable season for live stock. Eight bulls were placed through the Exchange Policy, with assistance given to seven other farmers through office contacts. Under Department Policies, 11 pure-bred boars were placed and three rams. There are two Colt Clubs in operation.

Dairy production has increased over 1943, and this has been a favourable season. There are three creameries in operation.

Poultry raisers and beekeepers both have had good seasons, and there is a definite increase in honey marketings.

Four Junior Grain Clubs are organized with a membership of 70. There is one Girls' Club operating. It has been a very difficult year for Junior clubs, due to bad weather and impassable roads.

There were 223 investigations made on applications for farm postponement.

Smoky Lake—M. D. Shemeluck.

More farmers are changing from grain growing to stock feeding and dairying. The number of cattle has increased. On the whole, this was a favourable season for both crops and live stock. Cereal crop yields were above average. It is encouraging to note that a greater number are now growing registered seed. Of the wheat grown, 75% is Red Bobs, with Victory still the main oat variety.

Brome grass is the most popular forage crop, and there are still large acreages of sweet clover. In the western section of this district sweet clover is used for fodder and seed. During the year, 40,000 pounds of seed were produced in this part of the district. This office distributed over 15,000 pounds of seed through the Forage Crop Policy.

The most prevalent weeds in this district are wild oats, sow thistle, Canada thistle and couch grass. There are scattered infestations of tartarian buckwheat and field bindweed.

This was a very favourable season for live stock, with good summer pastures and a long period of fall grazing. Beef cattle holdings are 10% over last year. Under the Exchange Policy, 10 bulls were placed while this office assisted in placing five other bulls and 10 pure-bred females. Five boars were placed through the Swine Policy and six others located by this office. In addition, eight boars were placed under the Dominion Swine Policies. Seven pure-bred rams were placed through office contacts with breeders. Assistance was given in placing three pure-bred stallions.

It is estimated that there are about 30 feeder lots in operation, with numbers ranging from 6 to 45 head per lot.

On many farms dairy products have become a major source of revenue. There are numerous farms milking 10 to 16 cows. Two local creameries are in operation. They estimate a 10% increase over last year. There appears to be a general improvement in the quality of dairy breeding stock.

Satisfactory prices encouraged local poultry breeders, with a slight increase in egg production over last year. Better housing, feeding and management are in evidence on many farms.

There is a steady increase in the number of beekeepers. It is estimated that there are 375 beekeepers in the district. Late arrival of spring packages cut down average production. This office assisted by organizing local field days and providing bulletin information.

Eight Junior Grain Clubs are in operation, four in oats and four in barley, with a total membership of 146. There are three Forage Crop Clubs with a membership of 52, and one Potato Club with 20 members. Live stock clubs are made up of two Swine—membership 31, two Dairy Calf—membership 39, and two Poultry Clubs with membership of 28. These Junior organizations are making a real contribution to improvement of grain, stock and poultry in the district.

The labour situation in this area is not acute. Local harvest labour placed by the office numbered 26, and during November and December, 72 men were directed to winter industries. Investigations for the Mobilization Board totalled 264 for the year.

Stavely—L. H. Perry.

There is a definite increase in wheat acreage and 60% reduction in flax, with a slight reduction in coarse grains. Swine production will have a very decided drop. The season generally was very dry, and yields were considerably reduced. Wheat yields were patchy, varying from 20 bushels in the better areas to three in the dry section. An average for the whole district would be 10 bushels.

The most important forage crop continues to be crested wheat grass, particularly in the light soil areas. Brome grass is favoured in the northern and western sections. Local seed distribution agents were established at seven points and distributed 12,000 pounds of legume and grass seed. In addition, this office disposed of another 2,000 pounds.

Five mixing stations supplied grasshopper bait, and damage during the spring was not extensive. However, cover crops in the late summer and fall suffered severe grasshopper damage. Approximately 600 acres in the Macleod area was severely damaged by the pale western cutworm. An intensive campaign to encourage sawfly

control was carried on in the spring. Three control blocks were established at High River, Milo and Carmangay. Damage throughout the district varied from slight to total. The Champion district suffered severe losses. A new type of "pick-up" reel was used with fair results. The damage was not so severe where swathing is generally practiced.

Pasture and feed supplies for stock were abnormally low. Enquiries re Live Stock Improvement Policies were not numerous, as many breeders procure requirements locally or attend the sales at Calgary. This office assisted 12 farmers enquiring for pure-bred bulls or heifers. Four boars and six sows have been placed through the office, and numerous others have been referred to local breeders.

The cover crop continues to be a major factor in fall feeding. Cover crop values soared this year, averaging around \$6.00 per acre. Oats are becoming more popular as a cover crop. Two and three year old steers appear to be the most popular for cover crop finishing. Gains reported vary, ranging from two to three pounds per day. Only a small percentage of these feeders receive grain.

Warble control was emphasized at all spring meetings. The Macleod district used power spray equipment to handle the ranch herds. Two treatments were given to most cattle at intervals of three weeks, and it is estimated that 5,000 head were treated in the southern area and another 6,000 in the Claresholm district.

Junior clubs in operation consist of a Wheat Club at Macleod with membership of 25, two Beef Calf Clubs at Claresholm and Macleod with a membership of 27 and 18 respectively. These clubs had a successful season. The Grain Club has endorsed a policy of sawfly control, and their interest is very commendable.

A total of 200 men were directed to work through this office, and local labour representatives handled a large number in addition. Local air force camps provided valuable harvest help. Mobilization Board investigations totalled 123, and 175 rejects were checked. Under alternative service, 25 contracts have been completed.

Stettler—R. D. Price.

A dry spring was followed by very wet weather in July, giving above average crops in the district. There is an estimated increase of 25% in wheat acreage and slight reduction in coarse grains, and very little acreage in flax. Yields averaged as follows: Wheat, 21 bushels; oats, 40 bushels; barley, 28 bushels.

Premiums on winter wheat encouraged this acreage, and approximately 700 acres were grown this year. There is a strong demand for registered and certified seed. The seed cleaning plant at Coronation operated by the Alberta Seed Growers' Association has been running at capacity throughout the year.

Forage crops most suitable to the district are brome, alfalfa, sweet clover and crested wheat grass. The Forage Crop Policy was quite successful, a total of 11,675 pounds of seed being distributed through this plan. The bulk of this amount consisted of crested wheat grass and brome.

Two patches of hoary cress were located, and the municipal district has taken steps to bring it under control.

Live stock wintered in good condition. Considerable interest has been shown in breeding improvement. Seven bulls were placed through the Exchange Policy and nine others through office con-

tacts. Twenty bulls came into this district from the Calgary Bull Sale and 17 from Lacombe. Two boars were placed through the Improvement Policy and nine other through local breeders. Sheep flocks are being reduced. Two rams were placed through the Improvement Policy. The Stettler Horse Sales proved quite successful, with 506 horses selling for an average of \$70 per head.

Enteritis in swine, blackleg and shipping fever in cattle are still prevalent.

While dairy production is considered satisfactory, it was down about 4% from last year. There are three herds of registered Ayrshires, three Jersey and one Holstein herd in this district.

There has been an increase in those specializing in poultry, and noted improvement is observed in many flocks. The honey crop was well above the average, about 140 pounds per hive.

Junior club work continues to be an important part of this office's activities. This year three Grain Clubs, two Beef Calf Clubs and one Swine Club were in operation. The District Home Economist provided supervision for five Girls' Garden Clubs. The Bashaw Grain Club team, consisting of Clarence Furst and Kenneth Puffer, won the Dominion Junior Grain Judging Championship. Grain club membership totals 56, beef clubs 36, and the swine club 19.

Considerable time was required on the farm labour programme.

St. Paul-Morinville—J. M. Fontaine and Paul Gibeau.

While spring conditions were dry, there was plenty of moisture through the latter part of May and during June. Average yields for crops would be: Wheat, 26; barley, 28; oats, 45; flax, 15; peas, 14.

Through the Alberta Crop Improvement Association, 1,100 bushels of registered barley and 6,600 bushels of certified oats were placed with district farmers.

It is gratifying to note the steady increase in the use of forage crops. Alfalfa, brome, red clover, alsike clover and timothy predominate. It is estimated that 40,000 pounds of forage seed were distributed through this office and local seed agents. Export of seed from this area will approximate 600,000 pounds. From these figures one can realize the great importance of forage crops to this area.

The weed menace, in our opinion, is becoming a greater problem each year.

The live stock industry indicates that both quantity and quality are improving, and there is plenty of good feed throughout this district. Five bulls were placed through the Exchange Policy and five more were purchased for local farmers. Thirteen cows and three heifers were secured by us for interested farmers. Eleven boars came to the district under the Swine Improvement Policy, and we gave farmers assistance in procuring 23 pure-bred sows. Six groups were organized to take advantage of the Dominion-Provincial Sow Distribution Policy. Two rams were placed through the Provincial Improvement Policy.

Less disease has been reported among live stock than in former years. An increase of 100% was reported in the sales of warble fly powder.

Dairying supplies revenue to many farmers, although it would not be considered a major activity in this district. There are three

pure-bred Holstein herds, of which two are under the Cow Testing Service and the other under R.O.P.

Four creameries in the St. Paul-Bonnyville area have an estimated butter output of two million pounds.

It is estimated that beekeepers in this district have increased 15%. Production was satisfactory this year, totalling about 200,000 pounds. Local demand absorbs practically all of this amount.

Four Junior Grain Clubs are in operation, with a membership of 75. One Alfalfa Club has 28 members and a Beef Calf Club 15 members. One Swine Club operates with 15 members. Nineteen Girls' Clubs are in operation. These are very popular.

During the harvest season, 160 harvesters were placed, and this fall 116 men were directed to essential winter work. A total of 352 investigations were made for the Mobilization Board.

Thorsby—Thos. Kilduff.

There is a continuing trend towards larger acreages of forage crops, particularly clovers, in the gray soil area. Hog production will decrease about 5% and dairy production will show an increase.

While spring conditions were dry, it was followed by an abnormally wet summer. Low lying areas were in many cases drowned out completely or had very small yields. In spite of good fall weather, it is estimated that only 55% of the clover acreage was threshed. This was due largely to inadequate harvesting equipment, such as combines.

A survey of the district brought out the fact that 35% of the cultivated acreage in the western portion is devoted to forage crops. In the transition area about 20% is in forage crops, and this decreases to about 7% in the black soil area.

Wheat yields averaged from 30 bushels in the black soils to 12 or 15 in the gray soil areas. Oats would vary from 20 to 60, depending on soil type.

Very favourable results were secured from the limited quantities of Ajax oats that were tried out this year. Newall barley is widely used, but farmers are anxious to secure a start in Titan.

Alsike, Altaswede, alfalfa and timothy-alsike mixture are the major forage crops in order of importance. Ferax alfalfa is on trial in the Warburg district.

West of the fifth meridian, legumes are of prime importance as a seed crop and soil improver. Approximately 6,500 pounds of seed was distributed through five agents under the Forage Crop Policy. It is estimated that 700,000 pounds of forage seed was harvested this fall, and approximately 300,000 pounds had to be left under the snow. Alsike is replacing altaswede in favour, and at present comprises about 50% of the clover crop. Alfalfa did not set well, and is not popular as a seed crop.

Field peas were grown under contract to wholesale seed firms. Probably 800 acres were grown, with results varying from almost complete failure to 24 bushels per acre near Breton. Over 1,000 acres are already contracted for 1945.

Wild oats and tartary buckwheat are the major annual weeds, while Canada and sow thistle are gradually spreading.

The season has been satisfactory for live stock with good pastures and ample winter feed supplies. Six boars, one ram and

two bulls were placed under Improvement Policies. In addition, three Shorthorn females were placed by the Live Stock Listing Bureau and three bulls placed under the Dominion Loan Policy. There is a decided reduction in the number of cattle on feed.

There is a steady expansion in dairying in spite of the labour shortage. Dairying could be considered a close second to swine for farm revenue. Production is estimated as an increase of 25% over last year. Cheese production has increased at Glen Park 79%, Thorsby 56%, and 25% from Millet and Leduc.

Poultry production has shown increases varying from 15 to 20%. Egg production almost doubled that of 1943.

There are two Junior clubs in operation, the Dairy Calf Club at Patience with a membership of 20, and the Liberty Swine Club with a membership of 14.

Investigations made on farm postponement applications totalled 45 postponements, and 22 alternative service.

Vegreville—W. N. Pidruchney.

This was a very satisfactory crop year in the Vegreville district. With the exception of three weeks of wet fall weather, there was really nothing unfavourable in the season.

The raising of live stock is the major farm enterprise in this district, and for that reason receives a large part of the time available from this office. There has been a steady demand for pure-bred boars and bacon type gilts. During the year, 74 gilts and 42 boars were purchased through this office for farmers orders. A number of others secured requirements through our Departmental Policies and at the Edmonton sales. While cattle raising is not so important in this district as swine, winter feeding is on a larger scale than ever. This office assisted in purchasing nine bulls for farmers and a number of others secured breeding stock through Improvement Policies. Labour shortage has reduced revenue from dairy production. Four herds of cows are under the Cow Testing scheme, and we have co-operated with the Dairy Branch in checking these tests.

There is a steady increase in poultry production, with proper feeding and management receiving more attention. Many well planned poultry houses are now erected. This office assisted in culling about a dozen flocks during the year.

There is increased demand for registered seed. Thatcher is replacing Red Bobs very rapidly and Victory continues as the popular oat variety. Newal barley is now accepted as the best variety for this area.

It is encouraging to note the great increase in acreage devoted to forage crops. Farmers realize the importance of improving soil fertility as well as having reserves of good feed available. Through this office and municipal district offices, over 16,000 pounds of forage seed were distributed under the Forage Crop Policy. About one-quarter of this amount was alfalfa.

This district has had a remarkable interest and increase in bee-keeping. Thousands of packages now come into the territory every spring. Information has been provided through meetings, field days and visits to individual beekeepers.

Three Junior Grain Clubs were in operation with a total membership of 38. The Vegreville Beef Feeding Club, with a membership of 28, completed another successful season. Another Beef Club has been organized at Chipman with 18 members. Assistance was given in organization of a Farm Boys' Camp at the Vegreville Exhibition.

There was a serious shortage of harvest labour, which was eased by the arrival of eastern harvesters, farm duty soldiers and farmers from the Peace River area. A total of 165 harvesters were placed through this office and local labour representatives. Investigations into applications for farm postponement numbered 255.

Vermilion—E. H. Buckingham.

This district recorded the largest crop in its history. There is a definite decline in hog raising and dairy production, but beef cattle and poultry have increased.

Wheat yields averaged 30 bushels, and all crop was harvested with very minor damage. Two hail storms did severe damage in the eastern part of the district.

More attention should be given to soil conservation. During the past few years moisture has been plentiful and soil drifting negligible, so that farmers forget about the dangers of erosion.

Oat yields average 55 bushels and barley 40 bushels per acre. Flax acreage was less than half of last year. Red Bobs makes up 60% of the wheat, with Thatcher favoured where combines are in use. Only a small acreage is field inspected for seed. Local sales of registered seed arranged by this office totalled 2,150 bushels, and an additional 120 bushels of Thatcher wheat was purchased by eight farmers. A total of 450 bushels of Ajax oats were also purchased for local seed growers.

Brome grass continues to be the favourite forage crop, while there is a noticeable increase in seedings of alfalfa. Crested wheat grass is not giving satisfactory results and is gradually being discarded.

Grimm alfalfa was distributed to 27 Junior club members. In the northern part of the district, 1,200 pounds of Cossack alfalfa was sold, and 230 pounds of creeping red fescue was provided for eight farmers interested in seed growing. A total of 22,150 pounds of forage seed was distributed by seed supply officers under the provisions of the Forage Crop Policy. The larger part of this amount was brome grass and alfalfa. Seed production in the district will total approximately 55,000 pounds. The bulk of this will be used in the district.

Wild oats cause the most concern as a weed problem, and practically all seed grain seems to be contaminated. Canada thistle and sow thistle are gradually spreading.

It was an excellent year for live stock and they went into the winter in good condition. Five bulls were placed under the Exchange Policy and sales of 40 other bulls were arranged locally. Forty boars and 20 gilts were sold for local breeders. Two rams came in under the Improvement Policy and this office assisted in six other sales. It is estimated that 6,000 cattle are on feed in the district. The annual Lloydminster Bull Sale was very successful, 60 bulls averaging \$210.

Dairy production is still a side-line in this area. There are three creameries in operation with a total butter production of 1,400,000 pounds.

There are some very fine poultry flocks established, and a general increase in production estimated.

It is estimated that 300 farmers are keeping bees, and 130 packages were handled through this office. Practically all the honey is used locally.

Junior clubs are made up of two Wheat Clubs, membership 35, six Alfalfa Clubs, membership 153, and two Beef Clubs with membership of 62.

A summary of the farm labour activities of this office includes: General farm workers placed, 114; harvesters placed, 697; men to other industries, 135; investigations for Mobilization Board, 149.

Westlock—E. G. Wood.

Due to intermittent snow and rain during the spring, a large percentage of crop could not be seeded until the latter part of June. Fortunately the long open fall permitted the bulk of the crop to mature.

The year will be remembered for the disastrous flood conditions following prolonged rains and the overflowing of the Pembina and Paddle Rivers. In the Westlock Municipality, over 200 farms were affected and slightly over 15,000 acres of crop land flooded. The flood took a heavy toll in live stock, farm buildings, personal property and grain in storage. This office assisted in a survey of the flooded area, and the information secured provided a guide for arriving at an equitable basis for distribution of the Flood Victims Fund, sponsored by the Alberta Livestock Co-operative.

The average yield of wheat was approximately 25 bushels, oats 45 bushels, and barley 30 bushels. There was a decided increase in flax acreage, and the combine was widely used in flax harvesting. Upwards of 400 acres of cereal crops were field inspected for registration. Numerous small orders for registered and certified seed were placed through the office.

Forage crop seed production is becoming of major importance. Both alsike and atlaswede clovers have promise of becoming real revenue producers. Marketings of forage seed from the 1944 crop show that upwards of 1,000,000 pounds has already been shipped from this district. Approximately 70% of the total was made up of sweet clover, the balance being alsike, alfalfa and atlaswede.

Under the Forage Crop Policy, approximately 20,000 pounds of seed was distributed through this office. Already orders for 1945 deliveries stand at 6,000 pounds. A local Seed Growers' Association affiliated with the A.S.G.A. has been an important factor in this forage programme, and has handled 40% of the seed shipped from this area. Peas promise to be another important crop. Approximately 100,000 pounds have been disposed of from the 1944 acreage. Very good results were obtained from the small lots placed this spring under the Crop Improvement Policy. One of the greatest handicaps is the lack of adequate harvesting equipment for peas and forage crops generally.

Wild oats and sow thistle remain the most troublesome weeds in cereal crops, while night flowering catchfly is the worst weed from the standpoint of forage seed production.

This was a very favourable season for live stock production. Outside of the flood area there is a good supply of coarse grains for feed. The trend in hog raising indicates that fewer sows are being retained for breeding purposes. Office records show that eight bulls were purchased through the Exchange Policy, and assistance was given in procuring nine other bulls. Assistance was also given to the Dominion Bull Loaning Policy. Local breeders supply practically all requirements for breeding swine. This office arranged to purchase 28 boars for farmers. Three swine associations under the Sow Group Policy were organized, and 48 gilts from Advanced Registry stock were distributed under this plan. Five rams were procured through the Sheep Improvement Policy.

Dairying holds a fairly prominent place in the farming programme. Two creameries are in operation. Butter production has declined about 9%. Poultry production has reached a very high level. Two commercial hatcheries are operating in the district. Housing is much improved, and this office supplied a large number of plans.

Honey yields have been quite satisfactory. Several commercial beekeepers are now established operating apiaries ranging from 150 to 300 colonies. The local Beekeepers' Association is the largest in the Province. This year the association did a \$14,000 business and handled 2,500 packages.

One Junior Barley Club operates at Neerlandia and one Alfalfa Club at Naples, with a total membership of 31.

Eastern harvesters placed numbered 21, farmers recruited to other industries 34, B.C. fruit pickers 14, and investigations for the Mobilization Board 252.

Willingdon—Fred Magera.

The general trend of farm production was somewhat similar to 1943 except that there was a pronounced change to grain raising at the expense of swine production.

The Junior Grain Clubs have been responsible for considerable seed improvement in this district. Forage seed was distributed through three agencies—our Department's Forage Seed Policy, the sale of surplus seed in the Eagle M.D., and distribution in Lamont M.D. on a three-quarter cost basis. A total of 6,255 pounds of seed was handled in this way.

Weeds continue to take a heavy toll. Perennial sow thistle has become a serious problem in one district north of Andrew. Steps are now being taken to carry out an organized control programme in this area.

Live stock benefitted from abundant summer pasture and open fall weather. Ten pure-bred bulls were placed under the Exchange Policy, six purchased at the Edmonton Sale, and assistance given from this office in locating another 10. Assistance was given to organization of a Dominion Loan Association with three units. Eleven boars were placed through the Swine Improvement Policy. Probably another 30 boars were purchased from local breeders.

This district might be considered unique in its continued interest in horse breeding. Three Colt Shows were held with fair attendance. Two stallions were brought into the district. There was a very commendable showing of horses at the Willingdon Show.

This spring, warble fly powder was distributed through 22 centres, and it is estimated that 68% of the cattle in the district were treated.

Two creameries are operating in the district. A Dairy Calf Club has been organized at Andrew. There are three Beekeepers' Associations serving the membership in obtaining packages and bee supplies. It is estimated that there are 350 beekeepers in this district.

There are eight Junior Crop Clubs organized with a total membership of 120. One new Dairy Calf Club has been organized at Andrew. Ten Girls' Clubs continued an active year, and since July have been under the supervision of the District Home Economist.

The Willingdon Agricultural Society took part in instituting T.B. tests for cattle, and assisted in the warble fly campaign.

Postponement investigations on farm applications totalled 201 cases, and 298 rejects were checked as to essentiality to their farms. This necessitated much work and mileage.

REPORT OF PROVINCIAL VETERINARIAN

(DR. P. R. TALBOT)

The following are the duties which are performed by the Provincial Veterinarian:

1. Assistance to farmers living in districts in which no qualified veterinarian is located.
2. Prevention and control of live stock diseases which do not come under The Animal Contagious Diseases Act of the Dominion Government.
3. Supervision of the health of live stock at all Provincial Government institutions.
4. Education work relating to diseases of live stock.
5. Carrying out the provisions of The Stallion Enrolment Act.

The close of 1944 finds Canada still at war. This fact alone requires greater effort than ever before to maintain the work of the Animal Disease Branch. Everyone appreciates that the health of animals, even in peace time, has a bearing upon the health of people, but in wartime particularly, it is absolutely essential that the health of animals be maintained. Live stock products are the most important contribution of Canada's agricultural industry to the war effort of the United Nations, and if production of these products is to be maintained at a high level and of satisfactory quality, the health of the live stock on farms is a prime requisite.

During the past year over 40 meetings were held in outlying districts to discuss disease prevention and control. Most of these meetings were organized by District Agriculturists, and the help of this field service is very much appreciated by this Branch.

The lack of veterinarians in this Province, to meet the requirements, is a problem. Even in districts where there is an adequate veterinarian service, the income which the practicing veterinarians obtain is hardly sufficient in many cases to justify them continuing in operation. The dissemination of veterinarian information through meetings, radio talks, bulletins, etc., is of much assistance to those farmers who live in far flung places.

This Branch has kept in close touch with practicing veterinarians throughout the Province, and these men have provided a great deal of valuable assistance in various ways during the year.

The immunization of animals against disease is playing an important part in the prevention of certain diseases. Some of the most serious losses, however, are from diseases which do not lend themselves readily to control by vaccination. Greater importance should be placed on sanitation. Farmers cannot continue to raise animals on the same pasture or in the same pens or yards year after year unless special sanitary precautions are taken. The numbers of live stock on farms have increased substantially during the war years, but in too many cases the facilities for handling them have not increased relatively, resulting in certain overcrowding. Farmers must recognize this problem, and alleviate it wherever possible. It is also highly desirable that every farmer who raises live stock has some provision for isolating sick animals upon the first symptom of disease appearing.

HORSE DISEASES

Diseases of horses during 1944 were of a very minor character. Very few cases of encephalomyelitis, which assumed epidemic proportions in 1938, were reported in 1944. Some cases of swamp fever were reported, and navel disease occurred at several points in the Province. Many requests were received for information for the elimination of parasites, digestive disturbances, etc.

CATTLE DISEASES

Hemorrhagic Septicemia.

Hemorrhagic septicemia (shipping fever) is still a major problem to the live stock trade. Cattle of all ages may be affected, but it is most frequently found in young animals which are sent to feed lots. Most cases appear in cattle that have been transported by truck and which have been exposed for hours to adverse weather conditions. The situation can be greatly relieved through more careful attention to the care of animals during shipment. Several different forms of the disease occur, the most prevalent in this Province being the pneumonia form. This type is frequently fatal, causing death in from a few hours to six or eight days. Outbreaks of the digestive type have also occurred, but in not as large numbers. Hemorrhagic septicemia can be satisfactorily controlled by preventive measures. Vaccinating with a reliable bacterin at least two weeks prior to shipment has been found to be highly effective in preventing shipping fever.

Blackleg.

Blackleg was not as prevalent in 1944 as in 1943, although it caused considerable losses. Losses from blackleg are quite unnecessary, as vaccination of calves in spring and fall with a reliable vaccine has been shown to be almost wholly effective in preventing this disease. A further means of preventing the spread of blackleg is proper disposition of the carcass of an animal which dies from the disease. Despite the educational efforts, far too many animals which die from blackleg are left on the range instead of being destroyed, preferably by burning, immediately after the animal dies.

Poisonous Plants.

Trouble from this source was less than in 1943. The distribution of the bulletin "Plants Poisonous to Live Stock" has been continued, and it is felt that the information contained therein has been useful in assisting farmers to deal with this danger.

Ergot Poisoning.

Losses from ergot poisoning occur every year. Treatment is not satisfactory, and about all one can do is discontinue the feeding of ergotized material. In the case of pasture land containing the fungus, animals should be removed from the source of danger at once. Succulent feed should be supplied, if at all possible, and the feeding of ensilage, beets and turnips might be helpful. Ergot contracts the small blood vessels, especially those of the limbs, tail and ears.

Keratitis.

Several cases of this disease were investigated this year. There are certain indications that the trouble is due to a specific organism, but this has not yet been definitely proved. Certain bacterins now

on the market may be used to prevent the spread of infection, and are, no doubt, of considerable benefit in the event of an outbreak. When the symptoms are definite, however, the use of Silvot or Argyrol is recommended, and the isolation of the animals affected for a few days. They should be kept out of the bright sunlight.

Bang's Disease.

A campaign to control Bang's disease was inaugurated in 1944. The plan provided for the vaccination of calves from four to eight months of age with Strain 19 Vaccine. Under this policy, the Department of Agriculture provided the vaccine free of charge and effected the necessary organization for the vaccination of the calves. Owing to the lateness of the fall, not as many calves were vaccinated as was expected. There were, however, applications received from 124 farmers and ranchers, covering 4,365 calves. Out of this number, 2,357 were vaccinated, and it is expected that a large proportion of the remainder will be treated in 1945.

The Bang's Disease Control Policy has been received with considerable favour throughout the Province, and it is expected that a more extensive programme will be carried out in 1945. It is hoped that through this policy advancement will be made in eliminating this devastating disease, which causes so much unnecessary loss. Complete records of the animals vaccinated will be maintained in the files of the Provincial Veterinarian.

Urinary Calculi.

Urinary calculi has been a problem with range cattle in some parts of the Province for many years. For unknown reasons, this condition has become more prevalent during the past two or three years. In 1944 some attempt was made to determine the causes of urinary calculi and to discover ways and means of preventing this condition. The investigations are still under way, and it is hoped that the factors which cause it to occur will be discovered.

SWINE DISEASES

Though no outbreaks of disease occurred in swine in 1944, losses in this class of animal continue to be a weighty problem. The great increase in our swine population is, naturally, leading to a greater interest in their welfare. It is now well known that losses in swine are preventable. Sanitation, proper feeding and good care, generally, are essential if swine are to be reared successfully. Distribution of literature on this subject is doing its share in showing the farmer how to guard against outbreaks of infectious diseases.

Far too many cases have been reported of farmers allowing their poultry to come in contact with swine. This invariably results in the swine becoming affected with tuberculosis. Valuable co-operation has been obtained from the packing plants, from whom the names of producers who marketed swine affected with tuberculosis were secured. Upon receipt of this information, the farmers concerned were contacted, and advice was given to them as to the prevention of this condition.

SHEEP DISEASES

The raising of sheep is an important industry in Alberta. Every endeavour has been made to render assistance to the sheep rancher, as well as to those who are feeding lambs for market purposes. A

few infectious diseases of sheep require attention from time to time. Hemorrhagic septicemia, sore mouth, infectious keratitis, enterotoxemia and lamb dysentery occur from time to time. The most common troubles in 1944 were nasal catarrh, lambing paralysis, pneumonia, parasites (grub in the head), and digestive disturbances. These problems were dealt with at a number of special meetings in the sheep producing areas and by the distribution of literature and by numerous correspondence with sheep raisers.

Urinary calculi in sheep was also reported from one district. The condition is quite prevalent in this area, and considerable attention was given to this problem by this Branch in 1944. Tests were made of the soil, water and feed to determine the causes of urinary calculi. So far, it has been impossible to decide definitely what causes urinary calculi in the area, but the investigations are going forward with a view to finding out the specific causes and then to discover the cure.

STALLION ENROLMENT BRANCH

The following is a summary of the work accomplished in the Stallion Enrolment Branch during the year 1944:

Breed	Enrolled	Inspected	Passed	T.D.	To be Re-examined
Percherons	242	96	64	25	7
Clydesdales	84	28	19	9	
Belgians	96	31	20	7	4
Shires	3				
Suffolk	4				
Thoroughbreds	27	10	8	2	
Standardbreds	9	6	3	3	
American Saddle	5	4	4		
Arabian	1	1	1		
Total	471	176	119	46	11

It will be noted that the enrolments have been decreasing during the last few years; this is due, in part, to the steady increase of the tractor on the farm, and it is now an accepted fact that the "machine age" has come to stay. However, there will always be a demand for certain types of horses. Thoroughbreds, saddle horses, hunters, and horses for delivery purposes in the large cities of both western and eastern Canada will not forego their usefulness. It is also quite possible that when hostilities cease there will be a call from those countries which war has left barren for all the horses we can supply. It is, therefore, important that Alberta keep up its record of breeding horses of good type in order that it may be ready to meet this demand. The high prices for live stock other than horses has also been incidental to the lack of interest shown in raising horses for market for the last few years. The end of the war will, no doubt, change this phase.

The method of keeping records of pure-bred registered stallions in Alberta is considered to be beyond reproach. The 1938 Amendment to the Act, which calls for inspection of enrolled stallions every five years, gives the means of knowing, and of informing prospective buyers, the condition of any stallion included in the inspection list. A record is also kept of the breeding ability of each enrolled stallion, which is most important to the intending purchaser.

The following statistics give the number of horses sold at the Lacombe Horse Sale since 1930 up to and including 1944, and the Calgary Horse Sale for the past four years:

LACOMBE HORSE SALE

Year	No. Sold	Total Sale Value	Ave. per Head
1930	357	\$16,569.86	\$82.80
1931	605	33,465.00	55.31
1932	386	22,967.50	61.08
1933	187	10,328.00	55.23
1934	203	13,764.50	67.80
1935	366	25,110.50	68.60
1936	308	25,830.25	83.86
1937	540	50,712.00	93.91
1938	684	57,540.00	84.10
1939	1,005	79,515.60	79.12
1940	815	59,288.00	72.75
1941	681	42,947.00	64.24
1942	711	49,282.50	69.30
1943	707	51,737.50	73.25
1944	986	73,083.00	74.12

CALGARY HORSE SALE

1941	322	\$21,896.00	\$68.00
1942	347	25,225.00	72.69
1943	616	43,298.50	70.28
1944	856	61,952.50	72.37

REPORT OF THE ANIMAL PATHOLOGIST

(T. LLOYD JONES)

During the year covered by this report, the work of the first ten months was under the direction of the Acting Animal Pathologist, Ross Walton, V.S., B.V.Sc., in the absence of the Animal Pathologist, who returned November 1st, following discharge from the army.

Activities of the Veterinary Laboratory have continued to provide:

1. A diagnostic service for the examination of specimens received from veterinary surgeons, farmers and District Agriculturists.
2. A blood testing service. This has included the testing of cattle blood samples submitted by veterinary surgeons for the diagnosis of Brucellosis (Bang's Disease) and turkey blood samples for Pullorum disease taken by inspectors from flocks supervised by the Poultry Branch.
3. Preparation of autogenous biological products. Most of this material was made for controlling distemper in foxes and mink. Occasionally control of an outbreak of germ infection among cattle, sheep and swine is attempted by using an autogenous bacterin.
4. Investigation of animal diseases in the field.
5. Providing information by discussion and by correspondence, on the subject of live stock diseases.
6. Contributing to discussions at field days, farmers' meetings, short courses and conferences on the control of live stock diseases and on policies administered by the Department of Agriculture relating thereto.

Diagnostic Service and Blood Testing.

A total of 1,625 disease specimens have been examined during the year. Veterinary surgeons submitted 4,507 cattle blood samples for the diagnosis of Brucellosis, and 2,263 turkey blood samples were received for the diagnosis of Pullorum disease.

The following tables show the number, nature and conditions found in specimens received. Thirteen different species are represented in Table 1.

TABLE 1

	Live	Dead	Portions	Total
Swine	50	114	28	192
Horse			3	3
Cattle	1	3	53	57
Sheep	6	5	6	17
Fox	17	29	4	50
Mink	47	55	1	103
Rabbit	2	1	1	4
Dog		1	4	5
Cat	1	1		2
Marten		1		1
Chinchilla		4		4
Chicken	382	569	20	971
Turkey	12	19	9	40
Feed			9	9
Fecal Samples			35	35
Milk			101	101
Blood			28	28
Bacterin			3	3
Total				1,625

TABLE 2

	Horse	Cattle	Sheep	Swine	Fox	Mink	Rabbit	Dog	Cat	Miscellaneous	Total
Abortion		*3									3
Abscess		†3									3
Actinomycosis		3				3					6
Anemia		1		8							9
Arthritis				1							1
Avitaminosis				5							5
Blackleg		†5									5
Blood		*6									6
Coccidiosis		1			4	5	1				11
Corynebacterium		5									5
Distemper		1									1
Errors in Feeding				24	38						62
Food Poisoning		2		30	14	1				2	47
Gastritis and Enteritis				43	3	8					54
Infectious Anemia	†1										1
Infectious Enteritis									2		2
Infection of Newborn			3	11							14
Injury				2		2					4
Intestinal Emphysema				2							2
Internal Parasites					3						3
Lungworm			1								1
Mange			†1		*2			†3			6
Mastitis		*40									40
Mixed Infection		†62									62
Necrotic Enteritis								1			1
Necrophorus Infection		4	1	11	3						19
Neoplasm	1										1
Nephritis					1						1
Nursing Sickness						6					6
Overdose Reduced Iron				3							3
Overeating in Sheep			3								3
Pasteurella Infection		2		3							5
Peritonitis				3							3
Pneumonia				7	6	5		1			19
Poisoning		*1		*1							2
Pregnancy Disease		†5		†5							10
Pulmonary Edema			1								1
Pyemia				5							5
Rickets				1	1	2					4
Roundworms				1							1
Salmonella Infection		†13		14	1			1			29
Septicemia		*12				5					17
Snuffles				1							1
Staph Infection				2							2
Swine Erysipelas						2					2
Swine Influenza				†6							6
Tapeworm			2	†1							3
Tuberculosis				13							13
Tumors		3		3			2	1			7
Urinary Calculi					1						1
Worms		8				2					10
N.V.L. or Putrid			1								1
Miscellaneous	3	11	2	7	2	5					30
Not Diagnosed	2	8	2	4	2						22
	3	5		2	2	5					15
Total	35	184	17	196	52	103	4	7	2	6	606

†negative diagnosis.

*positive diagnosis.

TABLE 3—POULTRY

	Chickens	Turkeys	Miscellaneous
Avian Diphtheria			1
Blackhead		3	
Botulism			3
Cannibalism	2		
Chilling and Overheating	30		
Coccidiosis	109	1	
Egg Bound and Internal Laying	8	1	
Enteritis	15	3	
External Parasites	5		
Fowl Cholera	3		
Fowl Typhoid	6	2	
Impaction	34	7	
Infectious Bronchitis	26		
Injuries	4		
Internal Parasites	14	2	
Laryngotracheitis	10		
Leucosis Complex	71		
Neoplasm			2
Nutritional Disorders	64	4	
Omphalitis	14		
Poisoning	10	1	
Pullorum Adult	4		
Pullorum Chick	103		
Paralysis	2		
Roup	36	1	
Ruptured Liver	2		
Tuberculosis	71	5	
Visceral Gout	1		
Miscellaneous	156	2	3
No evidence of disease or putrid	171	5	2
Total	971	37	11

Preparation of Specimens for Shipment.

It is difficult to appraise how effective our diagnostic service is in reducing losses by carrying out the advice which accompanies reports of material submitted. Records on over 6,000 specimens reported on since the laboratory was established in 1940, reveal that the most valuable information is obtained when we receive for examination one or more live animals or birds showing representative signs and symptoms of the disease in question. Failing this, we prefer to obtain the whole carcass (when size will permit) as soon as possible after death. To prevent decomposition, such specimens should be kept between 35° and 40° Fahrenheit. Since chemical preservatives often destroy disease producing organisms, which we look for as causing lesions, their use frequently renders tissue specimens unsatisfactory for bacteriological examination. When weather permits, small carcasses or portions may be preserved satisfactorily by wrapping them in several wet newspapers. After freezing, wrap the package in a number of dry newspapers before covering with a brown paper outside wrapper. In warm weather the least that can be done is to wrap the specimen in cheese cloth, then sprinkle borax over the surface. It is essential for delivery to be made with the least necessary delay.

In all cases, a complete history is essential for satisfactory advice to be given regarding control. Rarely do we obtain enough history about the feeding and management practices, which in our experience have proved to be important considerations.

Biological Products.

We have continued to prepare Brucella and Pullorum antigen for use in our blood testing service. Autogenous bacterins have been made for use in a few outbreaks where they were considered to be worthy of a trial.

Sufficient formalized vaccine for the control of distemper in foxes and mink was prepared to inoculate 12,275 animals.

Poultry.

Pullorum disease, coccidiosis, tuberculosis and the leucosis complex are the most prevalent poultry diseases encountered in our post-mortem diagnostic service. Of these, Pullorum disease requires a brief comment in this report.

Salmonella pullorum, the causative agent of Pullorum disease, was isolated from 103 chicks. No doubt many of the putrid birds would have yielded this organism as well if they had been satisfactory specimens, but a diagnosis of this disease is made only when the organism is isolated. In such cases, Leaflet No. 25, entitled "Pullorum Disease in Chicks," is sent to the owner. Last spring we enclosed a questionnaire, and 20 replies were obtained, which gave the information recorded in Table 4.

TABLE 4
INFORMATION ON PULLORUM DISEASE IN CHICKS

Hatchery	Province of Origin	No. of Chicks Purchased	No. of Chicks Died within 21 days of Hatching	Mortality
A	Alberta	3,390	1,281	37.7%
B	Alberta	2,200	593	26.9%
C	Alberta	350	217	62.0%
D	Alberta	500	220	44.0%
E	Saskatchewan	100	45	45.0%
F	Alberta	200	125	62.5%
G	Manitoba	312	276	88.7%
H	British Columbia	900	380	42.2%
I	British Columbia	1,100	322	29.2%

It is pointed out in Leaflet No. 25 that there are a number of ways that Pullorum disease can be disseminated. Regulations enforced by the Poultry Commissioner have reduced the incidence among chicks sold by approved hatcheries, but complete eradication is difficult to attain. We will continue to send out questionnaires in an attempt to obtain information on: (1) To what extent is the infection being brought into Alberta by chicks bought from other provinces? (2) Has the factor of long distance shipment an important influence on the incidence of morbidity and mortality?

Fur-bearing Animals.

Distemper was the most common infectious disease encountered in mink, and to a lesser extent in foxes, during 1944. Tissue vaccine was prepared and distributed for use in 8,479 mink, but we have received information on only 2,519 of these. Our primary purpose in producing the vaccine is to determine its value in controlling distemper, and it is disappointing to have to record that questionnaires were returned on only 25% of the animals involved. A second request for this information was not heeded by many ranchers.

The following summary is compiled from data received:

Total number mink on ranches reporting	3,157
Group A—Number vaccinated	2,519
Group B—Number died in Group A, 7 or more days after vaccination	232
Group C—Number not vaccinated	638
Group D—Number died in Group C	98
Group E—Number with clinical distemper, time of vaccination	137
Group F—Number recovered in Groups A and E	35
Group G—Number recovered in Groups C and E	6
Percent D of C	15.5
Percent B of A	9.2
Greater mortality percent C over A	6.3

The incidence of distemper in foxes during 1944 was low compared to that in mink, and the information at hand concerning the former species is not significant enough to record in this report.

Swine.

Fewer swine specimens have been received this year. There is no statistical proof that there was a reduction in the incidence of disease among swine during 1944, but information obtained from reliable observers suggests that this may be so. Losses attributable to improper feeding and management are still high, but there is evidence to show that the extension work of numerous agencies is having a desirable effect in reducing these to some extent.

The specific infections are still relatively uncommon in this Province. Swine erysipelas is found occasionally, but compared to reports from Saskatchewan and Manitoba, it has not become established in Alberta.

Brucellosis (Bang's Disease).

Veterinarians have continued to use our free blood testing service for this disease of cattle. The number of herds in our calf-hood vaccination programme, which began in November, 1941, and which requires the blood testing of calves and the issuing of certificates respecting those shown to have reacted to the vaccine, now totals 101. Certificates were issued for 460 calves in 1944.

No protection is obtained unless a reaction to the blood test can be demonstrated within four to six weeks after calves are vaccinated. Our records show that 69 (7.7%) of the 885 calves vaccinated in our plan gave no blood reaction and had to be re-vaccinated. Thus the value of combining blood testing with the vaccination of calves is clearly apparent.

Twenty-one herd owners were canvassed for information on the breeding history of heifers vaccinated at four to eight months of age. Only 11 replies were received, giving the following data:

Number of heifers reported on	106
Number calved normally	100
Percent calved normally	94.3
Number producing normal second calf	10
Number aborted during second pregnancy	2

Shipping Fever.

This disease in cattle became prevalent during the period preceding the onset of settled cold weather. The losses occurring during a relatively short period of fluctuating temperatures are a serious economic burden, and exposure to changes of temperature is only one of the many circumstances which predispose cattle to this infectious disease.

An attempt was made to obtain some information on the influence of various factors that might be incriminated. Weather conditions and temperature readings were recorded twice daily during the last quarter. These records show a correlation between a high incidence of shipping fever at the Edmonton Stock Yards and a wide fluctuation between night and day temperatures. Before and after this period the disease was not as prevalent. We have also collected data submitted by agents at shipping points. Information sought included the point of origin, distance and method by which cattle were brought and how long they remained at shipping point, whether they were watered and fed before shipping, and details of weather conditions.

Records on 43 carloads of cattle reveal that feed and water were not provided at shipping point for the cattle in 24 cars; five carloads were given feed but no water, leaving only 14 carloads that were

given adequate attention in this regard. Following shipment by truck in cold weather or after being driven to the shipping point, some cattle were not given feed and water for 24 hours before being shipped. Thus, they are not only exposed to exhausting circumstances relating to methods of transportation, but, according to our survey, some cattle have been denied feed and water for as long as 54 hours. It has been noticed that shipping fever is more prevalent among poor type multibreed crosses, but an obvious predominance of this class of live stock may allow no significance to be attached to this observation.

An attempt at control is being made by inducing farmers to inoculate feeder cattle with a bacterin at least two weeks before shipping. This is a reasonable procedure, but experimental proof of its value is lacking, and we hope to have an opportunity to make observations on this point during next season.

Biological products may prove of value in controlling the incidence of shipping fever, but the neglect of ordinary humane protection in shipping practices often renders healthy cattle susceptible to germ infection.

The purpose of using most protective biologics is to enhance the natural immunity of an animal. The procedure does not sanction indifference in feeding, care and management.

Extension Service.

Three graduate veterinarians are now employed at the Veterinary Laboratory. Title of the positions they hold are suited to their duties: (1) Animal Pathologist, (2) Extension Veterinarian, (3) Laboratory Assistant. This reorganization makes it possible to pay more attention to extension work, for which we find an increasing demand.

Acknowledgements.

As this report shows, a considerable amount of work was undertaken single-handedly by the Acting Animal Pathologist, and acknowledgement of his efforts are recorded herewith.

REPORT OF PROVINCIAL APIARIST

(W. G. LE MAISTRE)

A record honey crop of 5,130,000 lbs. was harvested. This is an increase of 35% over last year.

	Production in lbs.		Price per Pound to Producer		Value in dollars	
	1943	1944	1943	1944	1943	1944
Honey	3,800,000	5,130,000	14.5c	15.0c	\$551,000	\$769,500
Beeswax	53,000	71,000	45c	45c	23,000	32,000
					<u>\$574,000</u>	<u>\$801,500</u>
Bees			1943	1944		
Number of hives			43,000	57,000		
Number of beekeepers			7,600	9,100		
Number of hives per beekeeper			5.6	6.2		
Production per hive (lbs.)			89	90		

The increase in number of beekeepers, though considerable (21%), is less than during the last two seasons. The average number of hives operated by one person has increased slightly.

Imported bee prices have again increased, being from \$5.00 to \$6.00 per two-pound package this year. A Dominion Government subsidy of 50c per lb. assisted in equalizing prices with the 1943 level; prices in 1939 were \$2.75 per package.

About 50,000 packages were imported in spite of these high prices. The percentage of these that failed to be productive was about 18% as compared to 22% in 1943.

Very little progress seems to have been made in wintering colonies.

	1942-43	1943-44
Colonies being wintered	13,000	13,000
Colonies being wintered, % of total	30	23
Winter loss of colonies	6,000	5,600
Per cent loss of wintering colonies	46	44

Conditions were favourable during the early spring, permitting colonies to build up to strength readily without particularly heavy artificial feeding. In fact, dandelion and willow honey was extracted as surplus from some wintered colonies.

The average production per hive (90 lbs.) was below normal for the third successive year. Southern Alberta had one of its poorest crops on record, probably from one-third to one-half normal. Dull inclement weather during July is blamed, though in some areas lack of clover was responsible. In more northerly parts the average production per colony was normal on the whole—some areas had excessive wet in July and poor crops resulted; others obtained a good flow in August and were above normal.

Marketing.

There was less confusion in the honey market this year. The great demand by consumers again resulted in only limited quantities going through the wholesale trade. Honey is moving more slowly than it did in 1943, though most producers will have but little honey by the end of the year.

	1943	1944
Producer to wholesaler, per case 8's	\$6.58	\$7.29
Producer to wholesaler, bulk, per lb.	.11¾	.12
Producer to retailer, per case 8's	7.00	8.01
Producer to retailer, bulk, per lb.	.12½	.13
Producer to consumer, bulk, per lb.	.15½	.15

Disease Control.

Twelve part-time inspectors were appointed; but owing to other work and wet weather it was difficult for them to cover their territories. Nevertheless, most of these areas in which disease was known to exist were carefully inspected, and diseased hives destroyed. Five districts previously free of disease were found to have diseased colonies in them.

	1943	1944
Number of hives inspected	5,113	4,400
Number of hives diseased (A.F.B.)	233	135
Number of apiaries inspected	600	590
Percentage of inspected hives diseased	4.56	3.1
Percentage of all hives diseased	.54	.23
Number of beekeepers registered	7,600	8,000
Number of beekeepers not registered (estimated)	300	1,000
Number of hives registered	41,000	53,000
Number of hives not registered (estimated)	1,700	3,700
Percentage of beekeepers not registered	4	12

A diagnostic service is maintained for the examination of samples submitted from diseased hives. A total of 41 samples were examined. Ten of these were American Foul Brood, four were European Foul Brood, five were sacbrood and the other 22 showed no disease. In all cases the senders were notified of the results and proper treatment. A survey to discover the prevalence of nosema disease was conducted. Out of 138 suspected specimens that were dissected and examined under the microscope, 36% were infected with nosema apis spores.

Experimental.

A small apiary is maintained for experimental purposes. Tests are being conducted on methods of swarm prevention and wintering. The results indicated that the "Demaree" system of swarm control, if applied prior to the commencement of the honey flow, is 92% effective. Wintering, where ordinary standard practices are followed, can be successfully accomplished providing special provision be made for the escape of water vapour from the hive. Observations indicate a wide variation in hardiness and honey gathering qualities of different strains of bees.

Extension.

A great deal of information is requested of this Branch in connection with beekeeping. This information is supplied by means of bulletins, circulars, radio talks, meetings, demonstrations, short courses and correspondence. A moving picture was made to assist in this work. Seventy-five meetings were held, with an average attendance of 63. Eight radio talks were given.

Beekeepers' Organizations.

The Alberta Beekeepers' Association and the Alberta Honey Producers' Co-operative Association, Ltd., have been receiving attention of this Branch in an effort to establish agencies to assist in alleviating problems of supply attendant on the very rapid increase of the industry.

Sugar Permits.

Under the Dominion Government regulations providing for an allowance of sugar for the purpose of feeding colonies of bees, this Branch has issued some 11,000 sugar permits to Alberta beekeepers during 1944.

REPORT OF SCHOOL OF AGRICULTURE, OLDS

(JAMES MURRAY, *Principal*)

The academic year of 1943-44 was brought to a close early in April, when 45 young men were awarded diplomas in Practical Agriculture, and 29 young women diplomas in Home Economics.

We were pleased to have as our guests Hon. D. B. Macmillan, Minister of Agriculture, and Mr. O. S. Longman, Deputy Minister. Prof. Robert Gard was the guest speaker.

The valedictorian was Alan Hodgson of Calgary.

Scholarships were presented as follows:

The Alberta Wheat Board Moneys Trust Scholarships each of \$100.00, tenable at the University of Alberta when they register for a degree course—Vair Reid, Cremona; Alan Hodgson, Calgary; Frank Pawlowski, Vilna; Verne Flach, Opal; Ridley Shaw, Calgary; Nadya Melnychuk, Edmonton; Eve Heaver, De Winton.

A Scholarship of the value of \$75.00 to the student in Agriculture standing highest in the work of the first year—Bert Powlesland, Del Bonita.

A Scholarship to the value of \$75.00 to the student in Home Economics standing highest in the work of the first year—Alma Storch, Morrin.

A. L. Searle Scholarships of the value of \$50.00 each for progress in the first year's work—The one in Agriculture was awarded to John Laing, Altario. The one in Home Economics was awarded to Rachel Danyliuk, Sunset House.

The Girls' Alumnae Scholarship of \$50.00 to the student in Home Economics who made satisfactory standing in academic work and also made contributions to the athletic, social and literary life of the school—Awarded to Mary Kachuk, Desjarlais.

The O.S.A. Experimental Union Scholarship of \$50.00 awarded on the basis as the above—Awarded to Richard McCallum, Armstrong, B.C.

The Alberta Women's Institute Scholarship, also of \$50.00, for a first year student in Home Economics who had a creditable scholastic record, who made valuable contributions to the life of the school, and who displayed talent for leadership—Awarded to Jean Paverly, Wembley, Alberta.

Where Graduates Go.

Since nearly all our students come from the farms of Alberta for the purpose of taking a vocational course in either agriculture or home-making, it is only natural that the majority of them should return to the farms. The graduating class varies from 65 to 90 each year. A limited number continue their studies for a degree at the University.

The following information regarding degree students in Agriculture from the Schools of Agriculture has been furnished by Dean Sinclair of the Faculty of Agriculture of the University of Alberta:

Total number of students from the Schools of Agriculture entering the degree course in Agriculture at the University of Alberta (1915-1944)	335
Total number receiving Bachelor Degree in Agriculture	210
Total number who have received Master's Degree at the University of Alberta or elsewhere	60
Total number who have received Ph.D. Degree	26

A few have gone to other universities for their Bachelor degree.

From one to six graduates in Home Economics continue each year for a degree.

Student Health.

We had more than the usual amount of sickness during the spring term—some influenza, chicken-pox and mumps, but no serious cases.

The Rosebud Health Unit, with headquarters at Didsbury, again co-operated with us in immunizing the students against scarlet fever and diphtheria and in giving a tuberculin test to all students. In the spring term a number who were suspicious were taken to the Keith Sanatorium for X-ray, but fortunately the reports were all negative.

Staff Changes.

Mr. George R. Holeton, who has been continuously on the staff since the school opened in 1913, was superannuated in October. For a number of years after the school opened, Mr. Holeton was instructor in Carpentry, Blacksmithing, Machinery and Drawing. As the number of students increased, some of this work had to be relinquished for others. For many years now he has been responsible for the work in Carpentry, Building Construction, and Mechanical Drawing. He has also given a course in Manual Training to students in Home Economics.

School fairs engaged Mr. Holeton's attention during the summer months for many years. He was in charge of their operation in the district served from the Olds School, and was in no small measure responsible for their success. Thousands of boys and girls in the central part of the Province will remember Mr. Holeton as a judge at the fairs and general manager of the scholarship courses held at the School at Olds in July.

He was an excellent instructor, and genuinely interested in the progress of the students. He will be missed not only for his teaching ability, but also for his genial personality and his never-failing interest in the school orchestra, of which he was a leading member.

Mr. George W. Carter has been appointed as instructor in Carpentry and Drawing. Mr. Carter has had several years experience, and gives every evidence of being a worthy successor to Mr. Holeton.

Miss Lilian Rogers, who has been Dietitian and Dean of Women, was given three months leave of absence on account of her health. During her absence, Mrs. James Lyall of Calgary has discharged the duties of Dean of Women most acceptably.

Miss Isabel Gourley, R.N., who has had many years experience as a District Nurse, has been appointed as school nurse and instructress in Home Nursing and Sanitation. Miss Catherine Yellowlees is assistant nurse.

Mr. D. H. MacKinnon was appointed as Dean of the Men's Residence in October.

Mrs. Walter Weller of Calgary had a temporary appointment as instructress in Dramatics during the fall term. Toward the close of the term two plays were produced that won universal endorsement.

Enrolment.

The facilities of the school in class-rooms and laboratories provide for from 180 to 200 students, depending on how the students are registered in the various classes. The dormitory will only house 160, but over 200 can be accommodated in the dining-room.

For the 1943-44 session we had to refuse admission through lack of accommodation to about 40 students. Applications began coming in earlier than usual for the present year, and by the first week of August we had accepted as many students in Home Economics as we could house. Two weeks later we had as many in Agriculture as we could admit. After that time we had over 100 applications that had to be refused.

We already have on file a number of applications for the session which begins in October, 1945.

For various reasons, a number whose applications were accepted for the present session were unable to come. The final enrolment is as follows:

Agriculture:		Home Economics:	
First Year	54	First Year	34
Second Year	12	Second Year	13
Two-in-One	42	Two-in-One	27

Our students in Agriculture are somewhat younger than they were some years ago, as most of those who can be spared from the farms are in the armed services. Students are admitted at the age of 16 years. We have 34 of this age and only 11 over 20. Six years ago the average age was nearly 20, and a considerable number were registered who were over 25.

While we get a few excellent students who are 16 years of age, we find that those of 18, 19 and 20 or over make much better use of the course. Our experience would indicate that it might be advisable to raise the age of admission at least one year.

The school standing of students is much higher than it was years ago. When the school opened, less than 10% had better than Grade VIII standing. Now 80% have better than Grade VIII, and about 55% have Grade X or higher. We strongly recommend students to attend high school as long as possible before taking our course.

Course of Study.

There have been a few changes in the course of study. A somewhat technical course in Veterinary Science has been changed with the object of making it of more practical value to a young farmer. It is now designated as Animal Sanitation and Disease Prevention. It is given jointly by the lecturer in Animal Husbandry and by Dr. Ross Walton, Extension Veterinarian.

A short course has been added in Fur Farming. Many farmers now engage in the production of fur as a side line. It is thought that others may be equally well situated to engage in it if they were well informed on the subject.

A short course in Dramatics, Voice Culture and Public Speaking was also given during the fall months.

Summer Work of Staff.

Junior club work now occupies the time of several members of the staff. Mr. Malyon devotes most of his time to Poultry Clubs, Mr. Hawker and Mr. Benn to Junior Crop Clubs, and Mr. Gordon to Stock Clubs. Full reports on the activities of these clubs will be found in the report of the Supervisor of Junior Activities. The teachers in the Home Economics Department devote their time to Extension work along their special lines.

Summer Courses.

One full week in July is devoted to a short course for efficiency winners from the various types of Junior clubs supervised by the Department of Agriculture. In 1944 there were 140 in attendance. A very complete programme was provided, consisting of demonstrations and lectures with recreational and social periods interspersed.

Written and practical tests were held at the end of the week, and on the basis of the standing in these tests several scholarships were awarded as follows:

Wheat Clubs—Roy Woodward, Irvine.
Oat and Barley Clubs—Ralph Harrison, Tofield.
Dairy Cattle Clubs—Cleone Webb, Swalwell.
Beef Cattle Clubs—Norma Smith, N. Edmonton.
Swine Clubs—Earl Bergman, Erskine.

The scholarships are each of the value of \$75.00, and are tenable at this school. They are provided by the Alberta Wheat Board Moneys Trust.

A second week for Juniors was for representatives of the Alberta Women's Institute Girls' Clubs and Home and Garden Clubs. A total of 90 were registered, 47 of whom were from the Home and Garden Clubs.

Classes were held during the week in cooking, sewing, dramatics and in horticulture. A display was made of work done by the members of the clubs represented. This furnished many ideas for the girls to take home with them. Recreation periods and social events gave an added interest to the programme of the week.

Two scholarships were awarded, each of the value of \$75.00, and tenable at this school. The winners were:

For those from the Home and Garden Clubs: Stephanie Sayke-wich, Derwent.

For those from the W.I.G. Clubs—Maxine Workun, Leduc.

Farm Women's Week has been well established for a number of years. This year we had nearly 140 applications before we started to refuse them on account of lack of accommodation. Fortunately a heavy rain for two days made it impossible for a number to reach here, so we had about 100 present. A varied programme of instruction and entertainment met with an enthusiastic reception from those in attendance.

Buildings.

Much needed accommodation in the dormitory is in sight for the 1945-46 school year. Room is being provided for 32 students in the addition to the boys' dormitory. Provision is being made for additional showers on each floor. With this added space we should now be able to house all the students in the dormitory instead of having from 20 to 30 rooming in private houses.

Another much needed building under construction is a slaughter-house. This adjoins the live stock class-room on the north. Over-head trackage provides a means of bringing in carcasses from the killing room to the class-room for demonstration purposes. Most of the meat used in the dormitory is killed on the premises, the students in agriculture doing most of the work under the supervision of an instructor. When completed, the new building will

enable this instructional work to be carried on to much better advantage.

Gray Soil Experiments and Demonstrations.

Some of the work that has been done in past years is beginning to show results in the changes in farm practice in the districts west of here where gray soils predominate. Red clover, alsike and alfalfa are being grown on more and more farms each year. To assist in growing these, sulphur and sulphur compounds are being used extensively. In the Kevisville district alone, 40 tons of gypsum were used in the spring of 1944. We have available plans for a spreader for gypsum. A model has been shown at a number of field days held during the summer.

Below are given the results of a few of the trials made at various points on the gray soil area.

Yields are in pounds per acre of dry hay. All fertilizers were applied in the spring of 1944.

	Yield per acre (one cutting)
A. Burkholder, Cremona. Crop—Alfalfa:	
Check	2,640
Gypsum, at 100 lbs.	4,630
2-16-6 plus S. at 100 lbs.	3,860
	(two cuttings)
E. A. Rogers, Mound. Crop—Alfalfa:	
Check	2,841
Gypsum, at 100 lbs.	5,670
2-16-6 plus S. at 100 lbs.	5,538
H. Anderson, Sundre. Crop—Mixed Hay:	
Check	2,080
Gypsum, at 100 lbs.	4,850
2-16-6 plus S. at 100 lbs.	3,360

Weather.

The fall of 1943 was unusually dry, and the winter snowfall for 1943-44 was only three inches. The rainfall in April was just over one-tenth of an inch, so that the moisture in the soil at seeding time was much below normal. From the middle of May, however, the rainfall was more liberal, and until the end of August light and heavy rains were frequent. In fact, during the growing season rain fell on 68 days.

Month	Days Rain	Precipitation
April	3	.11
May	15	2.61
June	16	2.52
July	14	5.20
August	10	2.25
September	10	.52
	68	13.21 inches

The normal rainfall for this period is 13.11. The September rainfall, .52 inches, was of little value, but served to delay harvesting and threshing operations. October, fortunately, was dry, so that the crop was all threshed in excellent condition.

Temperatures were slightly above normal for the early months of the growing season, so that all crops made excellent headway. August was cool, but September was above normal, with the first killing frost registered in the last day of the month. The last spring frost was of 2° on the 24th of May, so that we had a frost-free period of 129 days, somewhat longer than usual. The lowest temperature of the winter was —15° recorded on March 5th.

HORTICULTURE

Apples and Crabs.

The severe winter of 1942-43 and injury from mice under the snow, combined with a dry fall in 1943, weakened a great many trees to the extent that they had to be discarded. Only the best survived. There were, however, over 30 varieties of apples and crabs which fruited. Among the most valuable were Alexis, Amur, Columbia, Dolga, Elsa, Florence, Hezer, Hibernial, Hyslop, Olga, Osman, Piotosh, Printosh, Robin and Rosilda.

The Alexis crab merits particular mention. In eighteen years it has not killed back; it has flowered and fruited profusely; the tree is of good shape with somewhat upright habit of growth so that it makes a good shade tree. The fruit, a bright red, ripens early in September, is of fair size, about one inch in diameter and an inch and a-half long. The fruit makes a fine jelly and is in great demand. It can be recommended as an ornamental fruiting tree.

Plums and Cherries.

These, like the above, received a disastrous shock, so that about 90% of the newer varieties were destroyed. A few of the older ones retained health and vigour sufficient to bear fruit. Such results are at first disappointing, but when it is realized that prospective growers can get a knowledge that some varieties are not sufficiently hardy, then time, money and labour is saved and the trial has been worth while. Sapa, Opata and a few sandcherries fruited satisfactorily.

Apricots blossomed freely, but were too early in spring to escape frost injury. Pears also were frozen. Raspberries produced the best crop of the small fruits, while currants and gooseberries were injured by frost when in bloom May 24th. Gem and Mastadon strawberries fruited nicely in the fall, but other varieties were a failure.

Frequently the question is asked about blueberries, but so far under our soil and climatic conditions it has not been possible to produce fruit. Under acid soil conditions in their native state, good crops are produced a few miles west of Olds, but even though our soil has been treated specially for the purpose, they have not been worth while.

Vegetables.

The cool season vegetables were all satisfactory, but warm season ones such as corn and the vine fruits did not thrive this year. Among the tomatoes, Lethbridge 3700, originated at the Lethbridge Experimental Station—a variety which does not require pruning or staking—was most satisfactory of all.

Beans were a good crop where bacterial blight did not destroy or partially destroy them. This crop, though important in the diet, frequently gives growers a headache, and much work must be done to be assured of a crop.

Touchon carrots were very successful again this year, and should prove very popular for the home. They are six to eight inches long, about 1½ inches in diameter practically the whole length, terminating in a blunt tip. Owing to the length, size and freedom from side roots, this carrot should prove useful where sliced ones are needed. It is sweet, tender, smooth and a good colour.

Tampala, a widely advertised new vegetable from China, was tried and proved a dismal failure. As far as we are concerned, the Chinese can keep it.

Shrubs and Flowers.

Numerous visitors during the summer get real enjoyment from the shrubbery and flowers. It is gratifying to know that even in wartime so many people visit the grounds. Perhaps it is that beauty soothes the mind through these days of strain and stress. It is difficult to give credit to any particular surroundings, because beauty is continuous from early spring when the anemones and violas are in bloom, followed by tulips and peonies, the shrubbery and trees, the lilacs and roses, the delphiniums and lilies, till the autumn phlox and chrysanthemums are in full display and await the fall frosts. The complete list of kinds and varieties of each are far too many to mention here; suffice to say that these last few years have seen a great development in this phase of teaching what may be grown with safety and satisfaction.

Experimental Union.

The distribution of satisfactory kinds and varieties of fruits, vegetable seeds, shrubs and perennial plants is one activity which places a heavy demand on labour and material in spring, but which makes a valuable connection with the school and the farmers throughout the Province. The charges are low, the quality of material sent out and the satisfaction given is evidence by the continued requests of old and new members, to the number this year of about 400.

Olds Farm.

The season was on the whole a favourable one—dry in the spring and with a normal rainfall in the growing season. Crops were not as heavy as in some years, but were well saved in good time, and were of excellent quality.

Hay was a good crop, but frequent showers made it difficult to save. By the time it is in the barn the hay crop here is frequently an expensive one.

All the live stock have done well. With the exception of the horses, there has been a good demand for breeding stock at good prices. Horses have been hard to move, but a few have been sold.

We still have on the farm the same breeds of live stock as a year ago, namely, Percheron horses, Holstein, Angus and Shorthorn cattle, Yorkshire hogs and Hampshire sheep. Limited barn space restricts the size of the herds, particularly since a number of extra bulls are required for the artificial insemination work.

The labour situation during the year has been fairly satisfactory considering the demands made by the armed forces on man power.

The farm has been under the capable management of Mr. Walter K. Ross, who has been most co-operative at all times.

Vermilion Farm.

The farm for the Vermilion School has been operated to keep it in a good state of cultivation and to maintain the herds and flocks in good condition and in reasonable numbers. Mr. J. J. Goertzen, who has been acting manager for the year, resigned to engage in farming on his own account. Mr. John I. Stephen has

been engaged as manager, and he has been in charge since early December.

The district had particularly good weather throughout the year. There was ample moisture to produce good crops of hay, abundant pasturage and heavy crops of grain. Good harvest and threshing weather prevailed, so all the grain was secured in good condition.

The number of horses has again been reduced, as some of the land has been sold. We now have on hand eight Clydesdale mares, four geldings and one grade filly. Three Clydesdale mares were disposed of for breeding.

The Yorkshire herd has been maintained at about the same size. There are 134 on hand, consisting of 16 sows, one stock boar and the balance of various ages from six months to a few weeks. There has been a fair demand for breeding stock during the year, 30 head having been sold for this purpose. A number were sold on the commercial market.

The flock of Suffolk sheep has been quite severely culled. We have now 41 head, 16 of which are lambs of 1944 and the balance young ewes of good type. Thirty head were sold for breeding during the year.

A carload of steers was bought during the summer, as there was more pasture than required for the regular stock. Another car was added late in the fall. Some of the first purchase have already been marketed, and we now have 33 on winter feed.

REPORT OF THE SUPERVISOR OF JUNIOR ACTIVITIES AND YOUTH TRAINING

(S. H. GANDIER)

Interest in all branches of junior activities sponsored by the Department was well sustained during 1944 despite many adverse conditions imposed by another war year. Though the young people now on the farm are noticeably a younger group than in normal times, enthusiasm for training projects offered through government agencies has not diminished. Then, too, a growing appreciation by parents and others of all endeavour on behalf of the young people in the country appears to be more evident. This increasing support by the adults is one of the most encouraging features of the boys' and girls' work, for without reasonable parental and local interest, any junior project is greatly handicapped.

Associated very closely with all junior activities is the District Agriculturist. His opinions and recommendations are sought with respect to all junior work to be conducted within the area served by the district office. He also acts as the local organizer, and therefore is a key man in this branch of the junior work. With the recent permanent appointment of a number of District Home Economists, it is now possible to give closer local supervision to much of the work with the girls' clubs. This was noticeably reflected in the sharp increase in Home Economics clubs during the year. Success in all projects depends primarily upon adequate local direction and leadership, and for this in much of our junior work we are dependent quite entirely upon the field staff above mentioned. The time that they may devote to junior activities must fit in with their other numerous duties, and in many instances this is a limiting factor to the amount of junior work that may be attempted. We would gratefully acknowledge also the splendid work done by many local club leaders and others who, through their genuine interest in the welfare of the young people, have given freely of their time and talents. Unfortunately, a dearth of competent and willing local leadership exists in many rural communities, and this is one of our major problems in the establishment of junior activities on a sound and permanent basis. Of course, quite a number of ex-club members now volunteer their services as local leaders, but under present shortage of farm labour and with so many of the younger farm people enlisted in all branches of the war services, this source of leadership is more limited than in normal times.

The Junior Farm and Home Clubs.

The main junior activity of the Department is the Junior Farm and Home Clubs policy, which encourages the promotion of clubs in live stock, field crops, garden and home economics projects for boys and girls in the age range from 12 to 20 years. The common objectives of all junior club work are the development of good citizenship and practical training for farm young people in preparation for their careers as the farmers and rural home-makers of the future. Under the existing set-up, expansion of junior clubs depend largely upon the time that the District Agriculturists may give to the work. Under wartime conditions there are so many new demands on the time of these fieldmen that they are not now able

to give the clubs the attention they normally deserve. More recently the District Agriculturist finds himself increasingly restricted in the matter of travel by automobile, and club work suffers accordingly. Nevertheless, the number of clubs and total membership of 1944 compare favourably with that of recent years. The table that follows is a comparison of figures for 1939, when the war commenced, with the last two years. It indicates that the live stock and field crops projects are being maintained around the pre-war level, and that girls' clubs, which were first added to the junior programme in 1940, have greatly increased in the past year.

	Number of Clubs			Membership		
	1939	1943	1944	1939	1943	1944
Livestock Projects:						
Swine	30	13	12	612	240	219
Beef	22	37	42	551	883	888
Dairy	10	10	11	258	203	213
Poultry		8	10		123	168
	62	68	75	1421	1449	1488
Field Crop Projects:						
Wheat	74	23	19	1260	384	315
Oats	23	30	26	296	542	427
Malting Barley	7	10	9	98	167	107
Feed Barley		20	17		317	262
Flax	1	2	1	9	26	14
Potatoes		3	3		48	48
Forage Crops		13	19		250	340
	105	101	94	1663	1734	1513
Projects for Girls' only:						
Garden Clubs		8	14		105	190
Home Economics Clubs		39	56		663	791
		47	70		768	981

SUMMARY

	Number of Clubs			Membership		
	1939	1943	1944	1939	1943	1944
Live stock Projects	62	68	75	1421	1449	1488
Field Crops Projects	105	101	94	1663	1734	1513
Projects for Girls		47	70		768	981
Totals	167	216	239	3084	3951	3982

Beef Calf Clubs.

For several years now the beef feeding clubs have been our most popular live stock project, due no doubt to wartime emphasis on greater beef production and relatively high prices for finished market stock. There were 42 such clubs in 1944, an increase of five clubs over 1943.

The beef club fairs and sales commenced late in May, final Achievement Day being held by two clubs in conjunction with the Calgary Fall Show. Average of financial returns to members on the whole was somewhat higher than for the previous year, and at many fairs quality and finish were distinctly better.

The co-operative fair and sale, in which several clubs participate, is gaining in popularity. Fairs of this type were held at the following points: Brooks, 6 clubs; Lacombe, 5 clubs; Edmonton, 4 clubs; Carstairs, 4 clubs; Lloydminster, 2 clubs from Alberta and 2 from Saskatchewan; Provost, 2 clubs; Benalto, 2 clubs; Lethbridge, 2 clubs; Calgary, 2 clubs. All of the co-operative sales and many of the one-club sales received good support from the buyers of packing houses, the more prominent retail concerns and local butchers. Comparatively few of the clubs disposed of their animals on the open market, most sales being held by auction. By special arrange-

ment with the War Time Prices and Trade Board, wholesalers and retailers were permitted to dispose of carcasses and cuts resulting from these sales at prices above the ceiling. Only in a couple of cases was this special privilege exercised. Most buyers who purchased club calves at higher than market prices disposed of the meat at regular prices, the premium paid to club members being regarded as indirect contribution in support of beef club activities.

The appointment of W. C. Gordon, Instructor in Animal Husbandry at the School of Agriculture, Olds, as fieldman to assist in the general field supervision of beef clubs during the spring and summer months, proved of great assistance to many of the District Agriculturists. His services were in constant demand, and he gave his personal attention to many clubs, thus releasing the District Agriculturists for other important seasonal duties.

Dairy Calf Clubs.

With respect to the dairy calf clubs, the problem of adequate supply of good heifer calves has continued to hamper progress in this branch of club work. Wartime demand for increased production of dairy products has created a market for good dairy stock, with which it is difficult for the clubs to compete. Sufficient calves have been available to maintain most clubs that operated in 1943, and two new clubs were added. In the fall, the situation eased somewhat with more calves offering. As a result, several new dairy clubs are now in process of organization, and 1945 promises to show greater dairy club progress than for several years past.

The Edmonton Milk Shed is still the main source of young stock for the clubs, very few calves being available elsewhere in the Province. Services rendered by the Live Stock Branch in purchasing calves and maintaining a distributing depot at Edmonton are a great convenience to the dairy club work. During the past year, 109 calves were provided to the clubs by this means.

The Alberta Branch of the Canadian Holstein-Friesian Association continues to support the dairy clubs by offering liberal special prizes to supplement the regular schedule of prizes. Special prizes for showmanship in all clubs offered by the Producers' Section of the Alberta Dairymen's Association are also gratefully acknowledged.

The dairy club project is a three year programme. Each club member endeavours to secure a heifer calf each of the three years, and at the final Achievement Day in the third year, three classes of stock are shown—calves, yearlings and two-year-olds. Where the project has been followed through with continuity, the possibilities of developing dairy stock in a community are strikingly demonstrated. In this connection the club fairs held at Abee and Bowden were outstanding.

Swine Clubs.

Swine clubs are at their lowest ebb of the last ten years. They have achieved one of their main original objectives, which was to assist in the wide distribution of desirable bacon type stock. During the past 20 years, the swine clubs have made an important contribution toward raising the type and quality of hogs in Alberta to their present high standard. In 1944, three of the old clubs were dropped and two new ones added. Since the swine club fairs are held through the fall months, they are often handicapped by adverse

conditions of weather and roads. A number of fairs had to be abandoned for this reason, and the pigs were judged on the farms. This is not very satisfactory, as the members lose the benefits of a final gathering and show at Achievement Day. The Boar Loan Policy of the Dominion Department of Agriculture is available to the swine clubs, and several secured good boars through it during the past year.

Poultry Clubs.

Poultry clubs are still in the experimental stage in this Province. After three seasons of operation in a small way, some uncertainty at present exists with respect to the poultry club policy for the future. One great difficulty under wartime conditions is the matter of adequate supervision of individual members and their flocks. Until this year, organization of clubs and field supervision has been the responsibility of the Poultry Branch, which has found it increasingly difficult to give the clubs the time and attention that they require. To meet this difficulty, Mr. M. W. Malyon of the staff of the School of Agriculture, Olds, was detailed as field supervisor of poultry clubs, commencing May 1st. This arrangement is not entirely satisfactory, since Mr. Malyon's services are not available after the opening of the School of Agriculture in the fall, when the field work again devolves upon the staff of the Poultry Branch. Satisfactory progress with poultry clubs is not likely to be made until a more permanent plan for field supervision may be adopted.

It will be noted by the general table of club statistics above that there has been a small increase in the poultry clubs. Though two of the old clubs were closed out, four new ones were organized. Of the 10 clubs in active operation, eight are poultry clubs and two are turkey clubs. As pointed out in our report for 1943, the group plan of judging exhibits of birds at Achievement Days is followed. Each bird is placed in one of three groups in accordance with standard of excellence. This method of judging has worked out with more satisfaction all round than is achieved by placing them in individual consecutive order.

The Crop Clubs.

On May 1st, the general supervision of crop club activities was transferred from the Field Crops Branch at Edmonton to the School of Agriculture at Olds. Supervisor of the work under the direction of the Principal is J. E. Hawker, Instructor in Field Husbandry at the school. This new arrangement makes available the services of members of the school staff for field work with the crop clubs from early spring until fall while the regular school courses are not in session. For a number of years the crop clubs had been supervised by E. C. Hallman of the Field Crops Branch, to whom much credit is due for bringing this branch of the club work to its present high state of efficiency. Mr. Hallman remains with the Field Crops Branch as Supervisor of the Farmstead Planning Service. Though the bulk of the crop club work is transferred to Olds, the Field Crops Branch has continued to render certain valuable services. In the summer, officers of the Branch assisted with some of the field days, and through the fall months they conducted the club Achievement Days in central and northern districts. The Branch also continues with the management of the annual Provincial Junior Seed Fair.

A study of the field crops section of the table of Junior Club statistics included in this report, will show several interesting developments in crop club trends. In 1944, a further shrinkage in wheat clubs occurred. This is in line with the policy of the past several years to discourage excessive wheat raising and to encourage a more general practice of diversified farming. There was some reduction also in both the oat and barley clubs which might be attributed more to a policy of elimination of weaker clubs rather than to any falling off in the actual value and need for clubs of these types. Forage crop clubs have been definitely encouraged, and this year there was a substantial increase. The importance of forage crops in the general farming programme to maintain soil fertility, for weed control and for production of pasture crops and hay, is realized more every year by Alberta farmers, and the forage crop clubs are helping materially in the campaign by distributing knowledge of these crops in many districts. There is no general interest in flax and potato clubs. Their activities have always been confined to certain areas in the south that are particularly suited to specializing in these crops. Total of all crop clubs this past season was 94 as compared with 101 in 1943, while total membership was reduced by 221.

Every spring supplies of seed for plots are distributed to new clubs, and also to old clubs whose crop of the previous year is unsuitable for seeding purposes. Seed costs are shared by the club sponsors and the clubs themselves through membership fees. Last spring the following quantities of seed were distributed: wheat, 868 bushels; oats, 1,830 bushels; feed barley, 664 bushels; malting barley, 1,905 bushels; forage crops, 3,186 pounds.

Weather and moisture conditions were quite favourable to crop club work during the 1944 season, except in the south-eastern districts, where the plots of a few clubs were a partial failure from lack of rain. In all other areas, standing crops and samples of grain at club fairs were well up to their usual high standard. Samples from most of the clubs will be on exhibition at the Provincial Junior Seed Fair to be held at the Olds School of Agriculture next March. The club fairs during the fall were well attended on the whole. There were a few points in the south where a number of the members were absent on volunteer harvest labour in districts farther north at the time of the fairs.

As a matter of record, the following awards at the Provincial Junior Seed Fair last March, as related to the crop clubs, might be mentioned:

Alberta Wheat Pool Trophy for best club group of three samples of wheat—
Won by Drumheller Wheat Club.

United Grain Growers' Trophy for best sample of oats shown by a junior oat club member—Won by Roy Maksymec, Northern Valley Oat Club.

Special cash awards by the Alberta Brewing Industry for best samples shown by club members, representing 25 bushel bulk lots of malting barley seed—(1) \$35.00, Robert Lewis, Bon Accord; (2) \$25.00, Mary L. Giffen, Okotoks; (3) \$20.00, A. C. Davie, Youngstown; (4) \$15.00, George Melenka, Andrew.

Alberta Wheat Pool Trophy for best individual wheat sample—Won by Barbara Lowen, Drumheller Wheat Club.

Gold watch and trophy from Canada Malting Co. for best sample of malting barley shown by a club member—Won by Andrew Pawlowski, Spedden Malting Barley Club.

Gold watch offered by the Line Elevators' Farm Service for best sample of feed barley seed shown by a club member—Won by Anne Lastiwka, Willingdon Feed Barley Club.

Winners of the scholarships awarded by the Alberta Surplus Wheat Board Money Trust for competition amongst "efficiency members" of the crop clubs, are mentioned in the section of this report that deals with Junior Club Week.

Results of the annual Inter-club Seed Judging contests held October 30th to November 2nd are given under section entitled "Provincial Inter-club Judging Contests." The Bashaw Feed Barley Club team won the Provincial Championship. They represented the Province at the National Contests in November, and succeeded in winning the Dominion Championship.

At Junior Club Week held at the Olds School of Agriculture in July, there were 90 of the delegates proficiency winners from the crop clubs. Further details will be found in separate section dealing with "Club Week."

The various services rendered by all the sponsors of the crop clubs are hereby gratefully acknowledged. These consisted mainly of financial help in providing seed to the clubs and payment of travelling expenses and board of club efficiency winners at Club Week. The sponsors also contributed generously in prizes and trophies.

Following are the present sponsors of junior crop club activities: Wheat and Forage Crop Clubs, the Alberta Wheat Pool; Oat Clubs, the United Grain Growers, Ltd.; Malting Barley Clubs, The Canada Malting Co.; Feed Barley Clubs, the Line Elevators Farm Service; Flax Clubs, The Alberta Linseed Oil Co.

Girls' Clubs.

The Girls' Garden and Home Economics Clubs are supervised by the Women's Extension Service, and report of their activities is given in the report of the Director, Agricultural Extension Service.

Provincial Inter-club Judging Contests.

In determining the club judging teams to be named Provincial champions for 1944 in seed judging, beef cattle judging, dairy cattle judging and swine judging, the District Agriculturists first conducted competitions in their own districts, the district winners being eligible to compete in one of the three regional contests. During the week of October 30th, regional contests were held at the University Farm, Edmonton, the Dominion Experimental Farm, Lacombe, and the School of Agriculture, Olds. Club teams qualifying for the finals at Edmonton on November 2nd were:

In Beef Cattle Judging—North Edmonton, Innisfail, and Nigger John (Millicent).

In Swine Judging—Bow Island, Great Bend, Erskine, Bremner-Fort and Daysland.

In Seed Judging—Bon Accord, Bashaw and Vauxhall.

Winners at these final competitions and therefore Provincial Judging Champions for 1944 were the following:

Beef Cattle Judging—North Edmonton Beef Club; Frank Rigney and Robert Moore.

Dairy Cattle Judging—Rosalind Dairy Club; Ila Nichols and Mildred Pederson.

Swine Judging—Erskine Swine Club; Earl Bergman and Sheridan Clark.

Seed Judging—Bashaw Barley Club; Clarence Fuerst and Kenneth Puffer.

National Inter-Provincial Judging Contests.

Teams winning the Provincial Championships in Beef Cattle Judging, Dairy Cattle Judging, Swine Judging and Seed Judging (named above), automatically qualified for the National Contests held at Toronto and the Ontario Agricultural College during the week of November 20th, under the auspices of the Canadian Council on Boys' and Girls' Club Work. The seed judging team from the Bashaw Barley Club, Clarence Fuerst and Kenneth Puffer, succeeded in Winning Dominion honors for the Province, and brought back with them the Championship Trophy for seed judging, won last year by the Alberta team from Vauxhall. In taking first place this year, the Bashaw team made the very high record of 1,098 points in a possible 1,200. Clarence Fuerst was individual high man in the contest, while Ken Puffer was in third place. In the other contests, Alberta stood third in beef cattle, third in swine, and eighth in dairy cattle. This is the thirteenth year of the National Contests, and in that time Alberta teams have won 14 Dominion Championships, 5 in beef cattle, 5 in seed judging, and 4 in swine judging.

Junior Club Week.

The third annual Junior Club Week for proficiency winners of the live stock and crop clubs was held at the School of Agriculture, Olds, July 17th to 21st. This is a free trip for the one member from each club who obtains highest standing for general all-round work during the club season of 1943. Cost of transportation and board is assumed by the various club sponsors. The crop club sponsors are named in the Crop Club section of this report. The stock clubs are sponsored by the Department of Agriculture.

There were 138 delegates enrolled in the course, of which 33 were girls and 105 were boys. The course of instruction included practical classes, demonstrations and discussion in live stock, field crops, horticulture, soils, farm machinery, the farm workshop, poultry, insect pests, weeds and rural sociology. Winners of five scholarships of \$75.00 each toward expenses of the first year of the regular courses at the School of Agriculture, offered by the Alberta Surplus Wheat Board Money Trust, were announced at the close of the course following a written examination of the work covered. These scholarships are assigned to different branches of the club work, and were won as follows:

- For Wheat clubs—Roy Woodward, Irvine.
- For Oat and Barley clubs—Ralph Harrison, Tofield.
- For beef clubs—Norma Smith, R.R.6, N. Edmonton.
- For Swine clubs—Earl Bergman, Erskine.
- For Dairy clubs—Cleone Webb, Swalwell.

The second annual Junior Club Week for proficiency winners from the Girls' Garden and Home Economics Clubs was held at Olds the following week, July 24th to 29th. With it was combined the annual convention of the Alberta Women's Institutes Girls' Clubs. A total of 90 girls were registered, of whom 47 were from the home and garden clubs. The main work of the course included such topics as cooking, sewing, household management, dramatics, woodworking and health in the home. A special feature was a most interesting display of sewing and handicraft work accomplished by the members during their regular club session. Transportation and board expenses for the course were paid by the club sponsors, the Alberta Wheat Pool for Garden Club winners and the

Department of Agriculture for delegates from the Home Economics Clubs.

At the conclusion of the course, two scholarships of \$75.00 each from the Alberta Surplus Wheat Board Money Trust toward expenses of the regular course in Home Economics at the School of Agriculture, were awarded as follows:

Garden and Home Economics clubs—Stephanie Saykewich, Derwent.
Women's Institutes Girls' clubs—Maxine Workun, Calmar.

The Junior Club Bulletin.

The quarterly publication of this four-page newspaper for the benefit of junior club members was continued through 1944. It is a valuable medium for acquainting the entire club membership with the general club programme of the current season and with results of the year's work and various Province-wide competitions.

The "Junior Club News," issued quarterly by the Canadian Council on Boys' and Girls' Club Work, is also received by Alberta club members.

Boys' Camps at "B" Class Fairs.

In support of attendance of juniors at the "B" Class Fairs within the Province as an educational medium, and to encourage juniors as exhibitors of the future, the Department made certain contributions toward boys' camps held at the Lloydminster, Vermilion, Vegreville and Red Deer Exhibitions in the "B" Class circuit. In addition to services of the local District Agriculturist in assisting with planning and conducting these camps, two members of the staff of the School of Agriculture were appointed as an instructional staff, J. E. Hawker to give classes in soils and crops and W. C. Gordon to handle instruction in live stock. Some instruction in farm mechanics was also given by the Department's Agricultural Engineer, B. T. Stephanson. Some limited financial assistance was also contributed by the Department toward the general cost of the camps.

These camps are a revival of similar projects held a few years ago with the aid of Federal grants, which were discontinued at the beginning of the war. At that time they had established themselves as a valuable adjunct to the fairs and a worthy junior educational feature. Success of the four camps this year would seem to justify their permanent renewal. Numbers admitted to camp varied considerably at the different points depending upon the accommodation that was available. At Lloydminster, 103 boys were registered, at Vermilion 53, at Vegreville 40, at Red Deer 26. At Lloydminster only a part of the Department's regular contribution was required, since assistance was also given through the Extension Department of the University of Saskatchewan.

Following the experience gained at the four camps this year, some features of the camp programme are due for revision before further camps are held.

THE DOMINION-ALBERTA YOUTH TRAINING PROGRAMME —SCHEDULE "E"

The current Dominion-Provincial agreement with respect to Youth Training projects makes provision for certain educational courses for the benefit of rural young people. During the war years agricultural activities under the Youth Training Programme have

been reduced for obvious reasons. However, this branch has continued some work with good results, under that section of the programme designed as Schedule "E". Following is a brief report of the training accomplished.

Schedule "E", Division "A"—Trainees at the School of Agriculture.

As mentioned in the report for 1943, only seven young men and women were admitted to the regular courses at the School of Agriculture, Olds, with Youth Training assistance in the fall of 1943. Though a maximum of 20 may be admitted under the regulations, conditions were so crowded at the school that a number of later applications could not be considered.

This year applications were taken several months in advance of the opening of the term, and 12 applicants were approved, including eight girls and four boys. They were all enrolled on opening day, October 17th, and at the close of the fall term all were reported to be making satisfactory progress.

Amount of assistance available to a trainee is approximately one-half of the total cost of the course for one full term. These grants are available only to farm young people who cannot otherwise attend the School of Agriculture. Applications are considered on their merits, and are approved or rejected in accordance with evidence concerning current family resources, the ability of the applicant to undertake the work of the course and the degree to which he or she is personally deserving of the assistance.

Schedule "E", Division "B"—Farm Repair Schools.

In the winter of 1943, a short course of three weeks each in repair of farm machinery, tractors and farm motors were conducted at four country centres as an experimental project. Wartime restrictions in the manufacture of farm machinery and difficulty in securing new repair parts had created a situation where it was essential that farmers must get the maximum of service and wear from their present stocks of farm equipment. It was hoped that these short courses might provide a training to young farmers whereby repairs might be effected to old and cast-off equipment, and thus ease an otherwise very serious situation. These special repair schools proved to be very popular from the first, and have been thoroughly appreciated both by the trainees and by the communities in which they were centred. As a result the Advisory Committee on Schedule "E" has recommended their continuance until such time as adequate stocks of new machinery and repair parts may be made available.

One limiting factor in conducting these schools is the scarcity of competent men that can accept winter employment as instructors. Good mechanics have permanent employment at high wages, and it is only under exceptional circumstances that fully qualified men with some experience in handling classes can be secured. The size of class at each school is definitely limited, since the work is given by only one instructor. Number of trainees that one man may efficiently handle is approximately 15, but at most schools a few more were accepted if floor space permitted. From January to March, 1944, two circuits totalling eight schools were planned, with H. C. Locke and W. A. Dixon as instructors. One school was abandoned because of an outbreak of scarlet fever. Schedule of schools follows:

CIRCUIT I—(H. C. Locke, Instructor)

Date	Centre	No. of Trainees
January 10 to 29	Lloydminster	18
January 13 to February 19	Holden	19
February 21 to March 11	Brooks	16
March 13 to 31	Fort Saskatchewan	14

CIRCUIT II—(W. A. Dixon, Instructor)

Date	Centre	No. of Trainees
January 19 to February 7	Lousana	18
March 1 to 18	Consort	16
March 20 to 31	Cereal	12

N.B.— Course at Cereal could run only to March 31st as this was final date of annual Youth Training agreement with Dominion Government.

As a matter of general information on work accomplished, following might be stated as the average of work undertaken at a representative school: three to four tractors overhauled; six to eight small farm engines; repairs on four to six pieces farm machinery such as plows, mowers, binders, etc.; setting and filing of 10 to 12 hand saws; a soldering project is done by each trainee; two lectures per day on motor mechanics and on the care and efficient use of farm machinery, remainder of time is on actual shop work.

An earlier start was made this fall with the winter schools for 1944-45. A very good school was held at Red Deer under H. C. Locke, November 27th to December 15, with 20 trainees in constant attendance. Four schools are arranged for the Peace River district, opening early in January, and dates for schools at Tofield and Wainwright are also set. Requests for schools at a number of other points were received before the close of the year.

REPORT OF THE ACTING SUPERVISOR OF RELIEF
SETTLEMENT PLAN

(E. B. SWINDLEHURST)

During the past few years there has been a tendency to forget the depression of the '30's with its wholesale unemployment and consequent privation. Several schemes were introduced for the alleviation of distress, and as a means of improving the prospects of those who, in spite of every effort to secure lucrative employment, were unsuccessful in their endeavours.

Arising out of this state of affairs was the land settlement policy known as the Relief Settlement Plan, which, although limited in extent, still gave the necessary boost to those who rather than continue indefinitely on relief, desired an opportunity to provide for themselves and their families. In all, 1,092 families took advantage of this assistance, families who due to circumstances prevailing at that time, had found it impossible to exist without application for public aid.

In September, 1939, seven years after the introduction of the Relief Settlement Plan, the percentage of abandonments for all causes was 33.3%. Due to demands for man power in other occupations since that time, the percentage has now increased to 57.3%. Among these, however, 17.1% only of the total placements have left the farm as a result of their inability to adequately support themselves on the land. The majority of the remaining abandonments have been due to enlistments and improved employment conditions.

Several payments have now been made by settlers, and expressions of appreciation for assistance received are numerous. During the present year, \$10,740.66 has been received. Total repayments amount to \$39,535.57. This represents payment in full of the recoverable portion of assistance by 85 settlers and partial repayments by 104 others. In addition, \$78,456.38 has been recovered as a result of salvage due to settlers leaving the farm. In 1944, 22 settlers abandoned, making a total of 626 during the time of operation of the policy. Causes of abandonment are listed as: Enlistments, 75; obtained other employment, 226; failures, 187; other causes, 138.

Direct contact between the settlers and this office as a result of systematic inspections proved valuable. In most cases the inspector was welcomed as a friend and advisor, and his visits were anticipated with pleasure. The success of a plan of this kind depends to a large extent on the interest and sympathy of the field personnel. We have been fortunate in that throughout the settlement period we have had among our inspectors, men with keen insight and a just appreciation of human values.

REPORT OF SUPERINTENDENT, PROVINCIAL HORTICULTURAL STATION, BROOKS

(P. D. HARGRAVE)

During the past year the efforts of the personnel of the Horticultural Station at Brooks have been directed towards:

- (1) The improvement and testing of fruit varieties for the prairie.
- (2) The further development of demonstration orchards throughout the Province.
- (3) Fruit and vegetable processing.
- (4) Organization of the Experimental Sub-station at Strathmore.
- (5) The production of vegetable seeds.

Early in the year a Horticultural Advisory Board was appointed by the Minister to act in an advisory capacity on matters related to the field of horticulture and the policies of the station. On this board are representatives of the Dominion and Provincial Departments of Agriculture, and a representative of the Nurserymen's Association, and horticultural organizations. During the last week of August this board visited the station and other horticultural research projects throughout the Province with a view to considering and co-ordinating the work of the Brooks Station with experimental work being conducted elsewhere.

Extension.

The demands for horticultural extension work have increased yearly, and during the post-war period it can be expected that planting of present farmsteads and the building of new farm homes will increase the requests for this service. The planning of a horticultural programme and the organizing of horticultural groups into a strong body will be necessary. The few societies now organized would make a strong nucleus for an association. Such a programme will require direction from a qualified horticultural supervisor in the field.

The staff of the Station has carried a heavy part of the horticultural extension work of the Province. If this present policy is continued, additional personnel will be necessary. The correspondence dealing with horticultural problems alone showed an increase in 1944 over the previous year of 71%, bring the horticultural inquiries answered to a total of 2,417. Inter-departmental and routine office correspondence is not included in the above figure. During the summer of 1943, there was a marked decrease in the number of visitors at the Station; however, in the past season there was a decided increase in the number who came to investigate the work being done. Unfortunately, because of the lack of trained help, it was not feasible to conduct tours around the grounds, and as a result many of the visitors did not obtain as much information as otherwise would have been possible.

Assistance was given by the Station staff at 24 meetings, including field days and short courses. The grounds of the Station were used for two large Junior Club Field Days, and during the three summer months of June, July and August, the picnic grounds were

used by organized groups on nine occasions. In an effort to extend its influence more widely over the Province it was necessary for the Station staff to curtail the work done in the immediate district.

Trees were shipped for the establishment of 13 new demonstration orchards. Of the total of 60 orchards which have been planted to date, four have been discarded. Many of the others have fruited. All are showing progress, although some have been damaged by hail and rabbits. If these orchards are to play their part as effectively as they might, greater directional assistance will be necessary. This will be needed particularly at pruning time.

Climate.

The calendar year of 1944 was one of moderate summer and winter temperatures with few extremes of heat or cold. The winter of 1943-44 was open and dry with light snow. Small fruits, tree fruits and ornamentals wintered with practically no killing. This was due to their having matured well during the mild fall of 1943.

The spring months of April, May and June were very hot, with dry winds. Irrigated lands, as a result, were too dry for the proper germination of crops. Good to heavy rains fell during the summer months. They were responsible to a considerable extent for the crop produced on the irrigated areas, as water could not otherwise have been spread quickly enough to maintain growth. Hail storms unfortunately occurred in some parts of the district, including the area occupied by the Horticultural Station, and as a result the yield records from the apple and crabapple test orchards were affected. The crops that were not damaged by hail yielded well, and in spite of hail losses the total fruit crop was heavy. The harvested product, however, was badly marred.

The fall season was comparatively dry, and harvest operations were carried on with little interruption. The last killing frost of spring occurred on May 3rd. The first killing frost of the fall occurred on October 3rd. This gave a frost free period of 150 days.

The following table presents temperature and precipitation records at Brooks for 1944:

	Max.	Min.	Av. Max.	Av. Min.	Precipitation
January	53	—24	31.64	15.67	.27
February	48	—10	30.34	7.17	.31
March	61	—20	31.38	8.58	1.37
April	77	25	63.43	30.76	.05
May	91	25	71.65	42.41	1.52
June	98	31	71.46	49.20	1.56
July	94	43	79.22	52.03	4.30
August	91	44	77.38	68.70	2.92
September	88	30	68.50	44.06	1.70
October	74	25	65.45	31.94	.00
November	56	—7	31.63	15.23	.42
December	50	—18	30.5	11.58	.14
Total					14.56

Disease.

Orchard diseases have not been destructive at the Station. Fire blight and scab have not been introduced. Bacterial blight of beans and bacterial ringrot of potatoes are two diseases that had a detrimental influence on the season's work.

Strathmore Sub-station.

On the first of May, the horticultural project of the C.P.R. at Strathmore was taken over by the Department for maintenance and supervision from Brooks. This project consists of approxi-

mately 38 acres planted to varieties of apples, crabapples, pears, plums, cherries, apricots, nuts and ornamentals. The most valuable of this material was grown from imported seed from Northern Manchuria shortly before the outbreak of the war. It is difficult at present to evaluate the importance this material might play in developing new fruits. Many seedlings bore fruit for the first time this year, and promising apricots were marked for further study.

Vegetable Seed Production.

The demand for Canadian grown vegetable seeds has increased. Seed production of this district has in part met this demand. Last year, 207 acres were under contract to vegetable seeds with the Special Products Board through the Dominion-Provincial Seed Production Committee and with commercial concerns. An Eastern Irrigation District Vegetable Seed Production Committee was formed to work in conjunction with the small seed supervisor. Yields of the various crops were below expectation, due to adverse weather conditions of early spring. The biennial crops, beets, carrots, turnips, cabbage and parsnips each yielded about 300 pounds per acre. The annual crops, radish, lettuce, spinach, cucumbers and corn returned from 200 to 1,000 pounds per acre. Stecklings for 1945 were a good crop and were harvested and stored in good condition. The "V" pit has been found to be the best type of storage.

Fruits.

Test orchards came through the mild winter of 1943-44 with no injury. As reported a year ago, injury was expected as a result of the severe winter of 1942-43. A long steady, dry spring brought the trees into bloom on April 28th. Pears and Nanking cherries were the first to show color. The abundant blossom season was followed by a heavy set of fruit, and many new varieties in the test orchards bore for the first time.

A number of apples, in the seedling orchards, were marked for further observation. None of these were numbered.

Among the plum seedlings, Brooks No. 40 and Brooks No. 41 were selected and propagated for further trial. These two seedlings are outstanding, very early in maturity and of high quality. The seed from which they were grown came to the Station from Manchuria in the fall of 1937. We feel that these two seedlings will find a favourable place in prairie horticulture because of their hardiness, earliness and attractive appearance.

Apricots were harvested in quantity for the first time, and some very favourable selections have been made in the seedling block at the Strathmore Sub-station.

Pears again showed promise, and when they become generally available from nurseries should be added to small home plantings.

In spite of the hail damage, more fruit was harvested on the Station this season than ever before. The fruit found a ready market during the early part of the harvest season, but as sugar rations were used up, there was a marked decrease in fruit sales. A large volume of the fruit that was picked was used for seed purposes.

Raspberries were again the most popular small fruit at the Station. The variety Chief consistently shows less winter killing than other varieties. New introductions under test are yielding

well, but flavour has been sacrificed for size in most instances. Of the named varieties in the plantings, Taylor is drawing favourable comment. In the exposed or windy locations, however, it will require protection.

Vegetables.

Sweet corn, popcorn and field corn types were included in the trials of the past season. An effort was made to include all the promising hybrids in the test along with other commonly grown varieties.

The earliest varieties, Conn VEB, Dorinny and Topcross Golden Bantam, are adapted to table use, having small ears, large kernels and sweetness. The above varieties were followed by Goldban Marcross, Seneca 60xC13, Columbia, Golden 601, Conn YEC, and Conn YEA. The last four varieties are particularly adapted to canning because of their larger size. These varieties were again followed by Spancross, Goldban and Burbank. The varieties most suited for canning and of similar season to the last group are Spancross, Golden Gem, Earliest Yellow, Conn EMC and Conn EMA. The latter two varieties are particularly well flavoured.

Popcorns matured in the following order: Blue Snow, B.V. No. 14, Pinkle and Japanese Hulless. The variety B.V. No. 14 is the result of five years work with Blue Snow. It is a strain equal in quality to Blue Snow, but having a white pericap.

The exceptionally mild fall permitted the ripening of all of the hybrid field corns. This is exceptional, as only four of the 33 varieties could be normally matured. The four hybrids in the order of their maturity are: Wis. 275, Wis. 279, Kingcrost K-F2 and N.D. 201.

Tomatoes.

New strains and old varieties of tomatoes were carried in the tests, primarily in a search for earliness of maturity. The hybrid B.V. No. 5 was still the highest yielding variety up to August 25th. This is a small tomato that will never be of commercial value, but is ideally suited to the home garden in Alberta because of its earliness, quality and adaptability. Also classed in the early group were Redskin, Bison, NDAC 38 and NDAC 303. All of the varieties mentioned so far are determinate. Princess Mary, Burbank and selected strains of Earliana were the earliest indeterminate types. The variety Farthest North was the earliest of all tomatoes, but its total yield of ripe fruit cannot be compared with larger strains that ripen slightly better. Our tomato varietal tests were conducted in co-operation with other horticultural institutions across the prairies, and similar records were taken. A co-operative test was carried on with the Taber Irrigation District at Taber. Varieties showing great promise are strains of Lethbridge 3700 and Coop 434. The colour of these varieties is poor.

Potatoes.

The large potato varietal trials were not harvested due to the presence of bacterial ringrot appearing in adjoining plots. It was unfortunate that this occurred in that the 1944 trials were the results of three years' collection and propagation.

Sprouted potatoes out-yielded unsprouted potatoes in the early varietal trials. Epicure was again the highest yielding variety.

The variety Lacombe No. 7, included in the test, showed considerable promise and is worthy of further trial. The varieties Bovee, Warba, Carter's Early Favorite, Red Warba and Bliss Triumph were also in the early group.

Tomato Hybridization.

Large numbers of segregating generations of tomato crosses were grown on the Station grounds, and in co-operation with farmers in the district. One strain of a determinate cross, B.V. No. 5, has been selected because of its ability to produce a high yield of early, ripe fruit. This is not a large tomato, but it has good colour, flavour and flesh.

Popcorn Breeding.

With the development and increase of B.V. No. 14, a breeding programme has been started to produce a hybrid popcorn having the earliness of Blue Snow or B.V. No. 14 and carrying the golden paricarp and kernel tint of the South American popcorns.

Fertilizer Tests.

Fertilizer tests were again carried out on potatoes. The accumulated results from the three years' trials indicate that the application of fertilizers containing (1) nitrogen and phosphorous, (2) manure and phosphorous, and (3) manure, nitrogen and phosphorus increased the yield. It is recommended that next year's tests be modified so that heavier applications of ammonium-phosphate fertilizers be included.

Fruit and Vegetable Processing.

During the past season different varieties of home grown fruits and vegetables were processed. The object was to determine the best varieties for preserving and the most satisfactory methods of preserving them. Canning and freezing tests were made. This work was done in co-operation with the Women's Extension Service.

An attempt was made to classify plums, cherries, apples and crabapples as to their canning, jelly making, sauce and juice qualities. Working particularly with plums, investigational work was directed towards finding some methods of removing the bitterness found in the skin of many of our prairie varieties, without destroying the ascorbic acid content.

Plum juices were extracted and made into jellies and the pulp used for fruit butters. Some very acceptable products were obtained. It is anticipated that as a result of the investigations, products suitable to commercial markets will be developed.

Similar tests were carried on with apples, crabapples and pears. It was found that the most pleasing and palatable of the jellies prepared was that from the juice of the Ussurian pear, the flesh of which is not suitable for sauce or canning.

The results obtained from the experimental extraction of fruit juices were most promising. The processed juice from different crabapple varieties differed widely, but can be recommended. Fruit syrups made from crabapples were not successful.

Forty-three corn varieties were tested for quick freezing, both on and off the cob, using different methods. Of these, eight varieties were found suited. Some surpassed in quality and texture the varieties found in commercial packs. The most suitable varie-

ties for on and off the cob processing are listed in the following table:

CORN VARIETIES SUITABLE FOR QUICK FREEZING

On the Cob:		
Variety	Score	Season
Burbank	84	Midseason
Marcross C-6-13	82	Midseason
D2 (McFayden)	79	Very late
Seneca 60-C-13	79	Early
Conn BD	78	Very late
Gold Ban	77	Early
Conn EMB	76	Very late
Conn MA	70	Late
Off the Cob:		
Variety	Score	Season
Burbank	86	Midseason
Conn EMB	78	Very late
Gold Ban	78	Early
Marcross C-6-13	76	Midseason
Earliest Yellow	73	Midseason
Seneca 60-C-13	73	Early
Conn EMA	71	Midseason
Golden Bantam	70	Late

Several varieties of green peppers and tomatoes were included in the freezer tests.

It would seem desirable that this part of the programme be extended by the addition of suitable equipment for the extracting and blending of fruit juices and the quantity production of jellies. These products could then be tested on the commercial market for acceptance by the public. The most suitable varieties of processed fruits and vegetables should be more intensely studied for suitable methods.

S 135 A33 1944
 ALBERTA DEPT OF AGRICULTURE
 ANNUAL REPORT OF THE
 DEPARTMENT OF AGRICULTURE OF
 SERIAL M1 39747548 SCI



Date Due

JUN 18 '68		Due Cam FEB 14 1992	
	APR 30 '83	Due Cam MAY 28 '92	
		Due Cam MAY 09 1992	
APR 29 RETURN		Due Cam JUN 17 1992	
DUE CAM	MAY 31 '90	Due Cam AUG 11 1992	
Due Cam JUL 09 1990		Due Cam OCT 14 1992	
JUL 10 RETURN		OCT 16 RETURN	
DUE CAM	AUG 21 '90		
Due Cam	OCT 02 '90		
SEP 19 RETURN			
Due Cam	JUL 03 '91		
Due Cam	AUG 14 1991		
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SEP 25 RETURN			
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S 135 A33 1944
Alberta. Dept. of Agriculture.
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